

SMALL ESTABLISHMENT SERVICE  
WHOLESALE NON - DURABLE GOODS

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**UNITED STATES, West Coast**  
2471 East Bayshore Road  
Suite 600  
Palo Alto, California 94303  
(415) 493-1600  
Telex 171407

**UNITED STATES, East Coast**  
Park 80 Plaza West-1  
Newark, New Jersey 07662  
(201) 471-1711

SES  
WHL

c.20

AUTHOR

Wholesale Non-Durable Goods

TITLE

DATE

ROOM

(4th Floor)

Service Company, Ltd.  
No. 12-7 Kita Aoyama  
-Ku

7-9 Merriwa Street  
Gordon N.S.W. 2072  
(02) 498-8199  
Telex AA 24434

000020

WHOLESALE NON-DURABLE GOODS

DECEMBER 1979

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## I INTRODUCTION



## I INTRODUCTION

- This report is produced by INPUT as part of the Small Establishment Service (SES). The report covers the selection and use of information processing equipment, services, and supplies by small establishments in the wholesale non-durable goods industry (SIC 51). These products and services include:
  - EDP equipment.
  - EDP services.
  - Office equipment.
  - Office services.
  - Communications equipment.
  - Communications services.
  - Supplies.
- Both independent establishments and branches of large corporations were studied for this report and analyzed separately.

- Small establishments were analyzed and were reported upon by size categories of from 1-19, 20-99, and 100-499 employees. These categories match federal definitions.
- A special analysis was performed to examine the purchasing process from the corporate viewpoint as it applies to the branches. Corporate headquarters of the branches contacted for this study were interviewed concerning the purchasing process with respect to information processing equipment.
- A list of information sources which supplement INPUT's primary research for this study is included as Appendix A.
- Definitions of terms used in the interviews and in this report are listed in Appendix B.
- Sample articles from the Modern Methods Committee operating on behalf of the National Industrial Distributors Association (NIDA) and the Southern Industrial Distributors Association (SIDA) describing the distribution code numbering system are included as Appendix C.
- Research carried out for this report included a series of telephone interviews carried out in July and August 1979, as specified in Appendix D.
- The questionnaires used for the small establishment and corporate headquarters interviews constitute Appendix E.
- Inquiries and comments on the information presented in this report are invited from clients.

## II EXECUTIVE SUMMARY



## II EXECUTIVE SUMMARY

### A. KEY CONCLUSIONS

- INPUT estimates that in 1978 the small establishments of the wholesale non-durable goods industry spent \$1.1 billion for information processing equipment, services, and supplies. This includes:
  - EDP equipment, services, and supplies \$285 million
  - Office equipment \$242 million
  - Communications equipment and services \$609 million
- The \$285 million spent in 1978 by the small establishments for EDP equipment, services, and supplies represents about 16% of the potential in this marketplace.
- INPUT estimates that the small establishments of the wholesale non-durable goods industry will spend approximately \$2.7 billion for information processing equipment, services, and supplies in 1983.
  - This assumes that these expenditures will increase at least as rapidly as the predicted growth of the information processing industry in general.

- This rate of growth will be more rapid than that of the wholesale non-durable goods industry overall. The penetration level for EDP equipment, services and supplies will increase to 33% from the current 16% level.
- Non-durable goods wholesaling is partially shielded from any potential economic slowdown because of the inclusion of groceries, petroleum, beverages, and drugs as subsectors.
  - If the economy slows substantially, the growth of expenditures for information processing equipment, services, and supplies will also slow down.
  - In the event of a recession occurring during the coming five years, the expenditures in 1983 by small establishment wholesalers for information processing equipment, services, and supplies may only reach \$1.8 billion.
- The fundamental business applications for computers are at the heart of wholesaling:
  - Accounts receivable.
  - Accounts payable.
  - Order entry.
  - Inventory control.
- Most computer application growth will occur in these areas. In addition, applications more specific to the wholesale non-durable goods industry than other industries are beginning to appear among the small establishments. Some of these are:

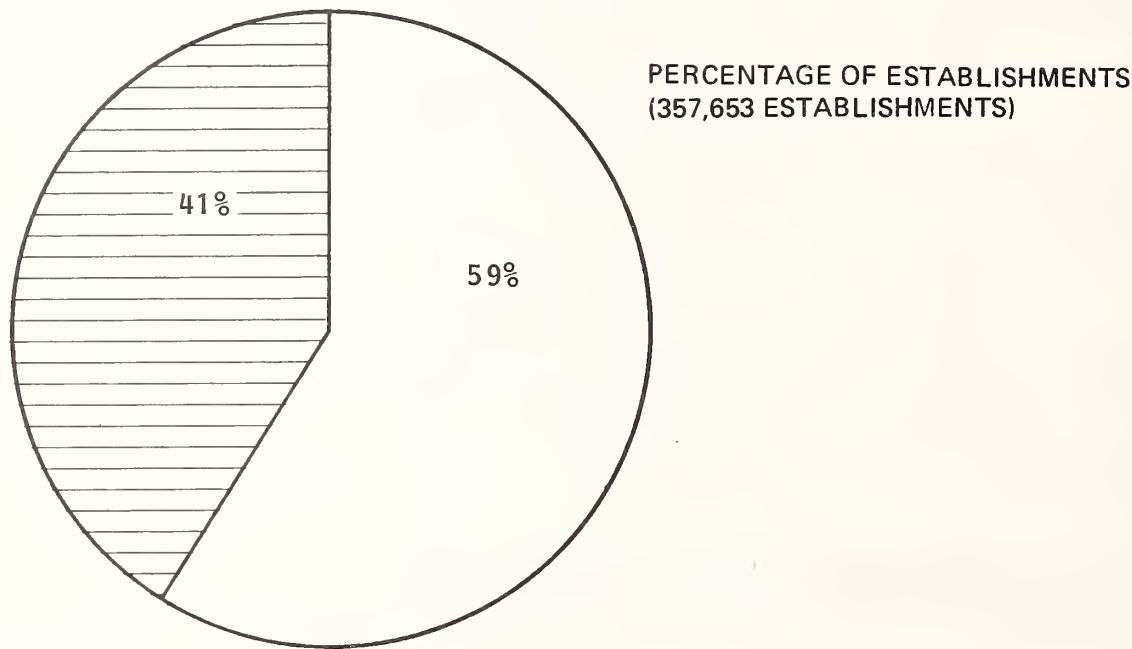
- Merchandise in transit.
- Monthly profit and loss accounting.
- Purchasing analysis.
- Product code markings have taken hold in the grocery industry but will be included at a slower rate in other wholesale areas. Vendors of equipment, software, and services to the wholesale non-durable goods industry should keep abreast of progress in this area.
- Branch EDP equipment is purchased almost completely by the corporate headquarters. Branches have more influence in the purchasing of communications equipment and services, and still more influence in the acquisition of office equipment and supplies.

## **B. WHOLESALE INDUSTRY STRUCTURE**

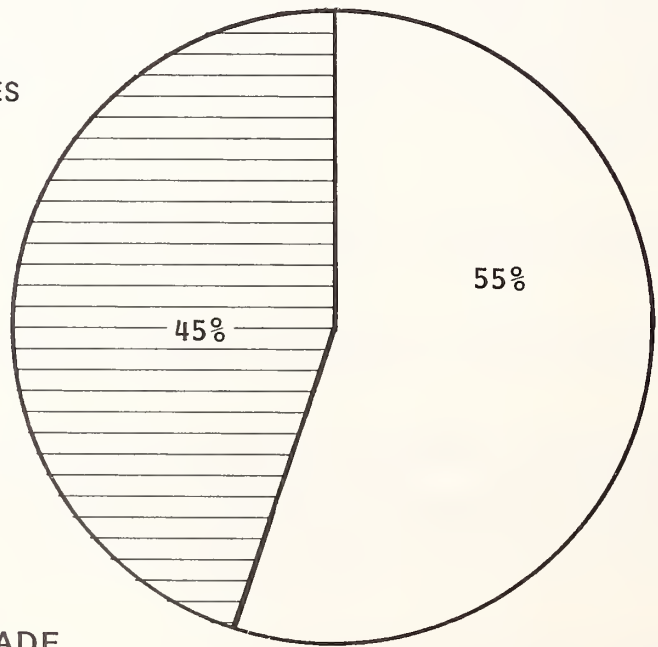
- Establishments engaged in wholesale trade were divided into two broad groups by the technical committee on Industrial Classification, Office of Management and Budget. This division first appeared in the 1972 SIC Manual and provided separate codes for:
  - Wholesale Trade - Durable Goods - SIC 50.
  - Wholesale Trade - Non-Durable Goods - SIC 51.
- The durable goods group contains 59% of the establishments and 55% of the employees within its purview (Exhibit II-1). Some of the industries included are:
  - Motor vehicles equipment.

EXHIBIT II-1

WHOLESALE TRADE INDUSTRY STRUCTURE  
1976 DATA



PERCENTAGE OF EMPLOYEES  
(4,455,130 EMPLOYEES)



TYPE OF WHOLESALE TRADE



DURABLE GOODS

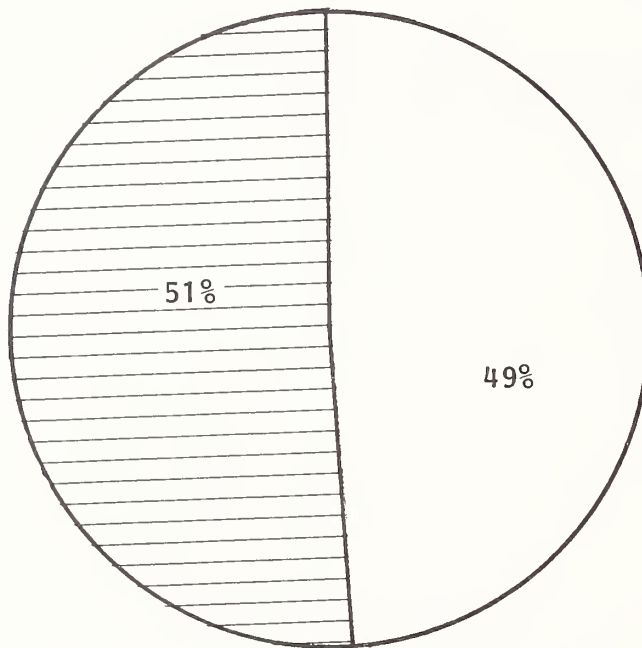


NON-DURABLE GOODS

- Furniture.
- Lumber.
- Electrical goods.
- Hardware.
- Some wholesale non-durable goods industries are:
  - Groceries.
  - Drugs.
  - Paper products.
  - Chemicals.
- Wholesale industry revenue estimates cover a wide range and are very dependent upon the statistical source. The revenues for 1978 used in this report were obtained from Federal Trade Commission figures and tend to be conservative compared to other sources.
- The 1978 revenue estimates for all of the wholesale trade is \$673 billion.
  - Revenue analysis by SIC codes 50 and 51 is shown in Exhibit II-2.
- There are three different types of wholesale establishments: merchants, manufacturers' agents and sales offices, merchandise agents and brokers.
  - An estimate of revenue by type of wholesaler is also shown in Exhibit II-2.

EXHIBIT II-2

WHOLESALE TRADE REVENUES  
1978 ESTIMATES

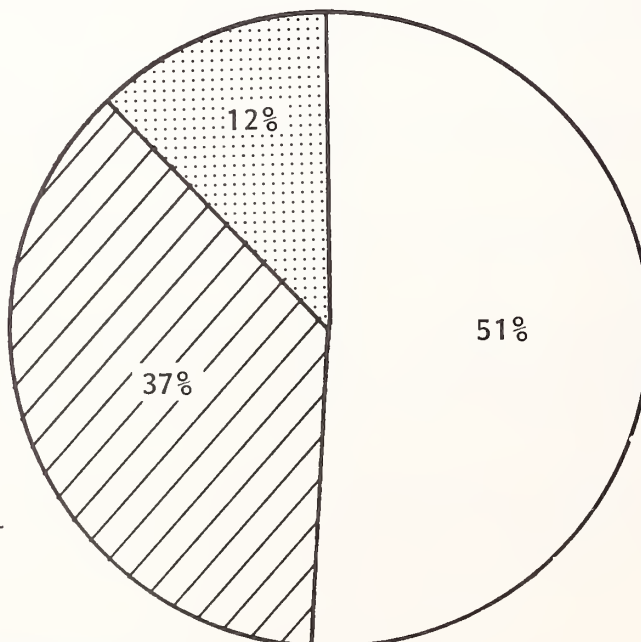


PERCENTAGE OF REVENUE  
(\$673 BILLION)

TYPE OF WHOLESALE TRADE

- ☐ DURABLE GOODS
- ☐ NON-DURABLE GOODS

PERCENTAGE OF REVENUE  
(\$673 BILLION)



TYPE OF WHOLESALER

- ☐ MERCHANT
- ☐ MANUFACTURER'S AGENTS  
AND SALES OFFICES
- ☐ MERCHANDISE AGENTS  
AND BROKERS

- Sales per employee figures for the wholesale industry (\$156,000 per employee) are high when compared to other industries.
- The non-durable goods wholesale trade has less establishments and less employees than durable goods wholesaling, but accounts for slightly more revenue and has about 40% more sales per employee.
  - \$135,000 per employee in durable goods.
  - \$190,000 per employee in non-durable goods.
- During the period 1973-1977, the merchant wholesale sector had an average annual growth rate of just less than 8%, with little difference between the durable and non-durable goods wholesalers.
  - During 1977-1978, the merchant wholesaler's revenues grew an estimated 14% with durable goods growth at 19% - about double the 9% experienced in non-durable goods wholesaling.

### C. EQUIPMENT AND SERVICES MARKETS

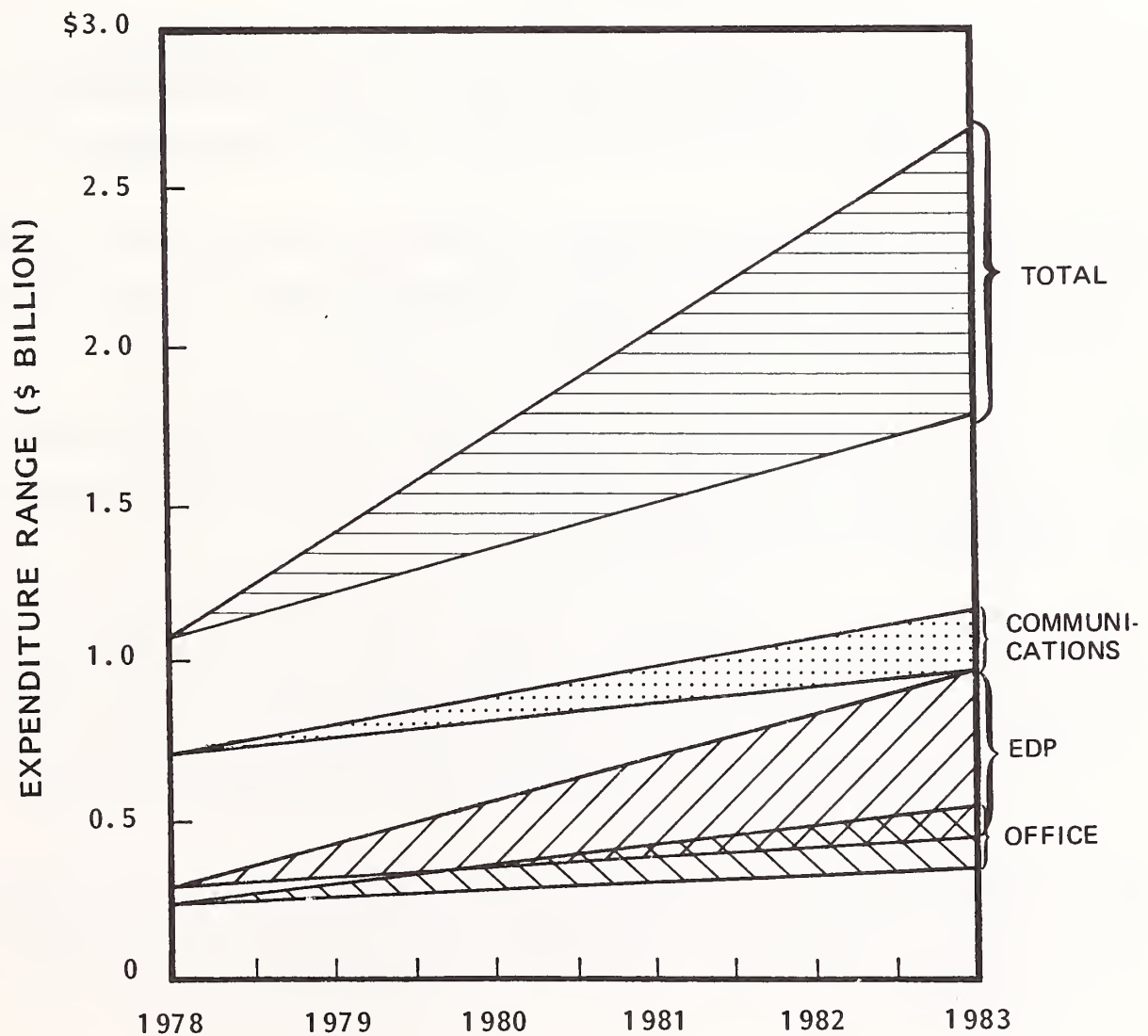
- The driving force for the projected growth during the coming five years will be the increasing customer demand for improved product related services.
  - To meet this demand wholesalers will place greater emphasis on customer oriented operations.
- Some of this emphasis will require purchases for information processing equipment and services in order to increase productivity while providing better service to customers.

- In general, better service can be equated with quicker turnaround of orders which, in turn, implies out-of-stock situations.
  - Inventory control programs will be important because they permit the inventory carried to more accurately reflect the orders being received.
  - Order entry systems based upon better communications will provide the impetus for quicker turnaround of customer requests.
- Driven by the need to provide better service to their customers, the total expenditures for information processing equipment, services, and supplies in small non-durable goods wholesale establishments will grow from a 1978 estimate of \$1.1 billion to a 1983 estimated range of between \$1.8 billion to \$2.7 billion.
  - The \$1.8 billion estimate assumes the market for automated equipment will just keep pace with the sales growth of the wholesale industry. Penetration levels will not increase.
  - The \$2.7 billion figure assumes that the expenditures for the various segments that comprise the for information processing industry will grow at their respective rates.
- The projected growth in the individual sectors are shown in Exhibit II-3. The specifics for each segment are:

|   | <u>Segment</u>                           | <u>1979</u>   | <u>1983</u>           |
|---|--|---------------|-----------------------|
| - | Total                                    | \$1.1 billion | \$1.8-\$2.7 billion   |
| - | EDP Equipment, Services,<br>and Supplies | \$285 million | \$460-\$980 million   |
| - | Office Equipment                         | \$242 million | \$390-\$555 million   |
| - | Communications<br>Equipment and Services | \$609 million | \$980-\$1,175 million |

EXHIBIT II-3

ESTIMATED GROWTH OF EXPENDITURES FOR  
INFORMATION PROCESSING EQUIPMENT, SERVICES, AND SUPPLIES  
BY WHOLESALE NON-DURABLE GOODS INDUSTRY SMALL ESTABLISHMENTS,  
1978-1983



#### D. RECOMMENDATIONS

- Vendors to this marketplace should seek non-durable goods wholesalers who are interested in meeting the needs of their customers by providing a total wholesaling package.
  - This might include price marking, credit, inventory management, marketing support, perhaps computer services, all in addition to delivering the basic products.
  - These wholesalers will be looking towards automation as a means of enabling them to provide these services at minimal cost.
- Selling emphasis for hardware, software, or services, should be based upon productivity increases, better management control and more effective response to the customer's needs.
- Those non-durable goods wholesalers who presently have automated systems will be adding equipment so that their data base can be expanded and new applications can be implemented.
  - Inventory management software that can be integrated with other programs and that will be more complete than those currently available for small systems will act as the "foot in the door" for additional software products and eventually additional hardware products.
- Significant opportunities exist in the paper products (SIC 511), apparel (SIC 513), and alcoholic beverages (SIC 518) wholesale industries for software products.
  - The software products can have a common generalized base and be made specific for each particular industry.

- Vendors of computer equipment, services, and software should provide facilities directed toward the goals of:
  - Tighter management of an increasingly broad inventory in order to minimize the amount of capital tied up in the inventory.
  - Improving communications at the manufacturer-wholesaler interface, and at the wholesaler-customer interface with respect to order entry, order processing, purchase order analysis, and sales analysis.
- At a minimum, all vendors of computer equipment, services, and software should keep informed, of the developments in standardized distribution code numbering systems.
  - The Universal Product Code (UPC) code is used extensively by retail grocers. Wholesale distributors also make use of the code. This use will increase as shipping containers are marked with the manufacturer and product identification.
  - The UPC code is a subset of a broader 11 digit product code that is being used by more and more wholesalers in order to simplify their overall bookkeeping and inventory systems.
  - One distributor, selected for a case study, reported a 67% productivity improvement in preshipment order sorting due to the installation of a scanning system.
- All software aimed at this market should accept the 11 digit code and should be able to process the six digit manufacturer's identification portion as well as the five digit product portion.
- All hardware suppliers should examine the feasibility of adding scanning devices to their product lines or permitting the interfacing of such devices to their equipment.

- The interfacing need not be a direct connection or via a communications line, but could be an input device that will accept data produced on a medium used in portable data capture scanning devices.
- Even for very small wholesalers, major problem areas are:
  - . Receiving.
  - . Inventory maintenance.
  - . Shipping.
- Inexpensive, portable scanning devices will alleviate problems in these areas.
- Communications equipment and service suppliers should plan to provide low cost equipment and services that will aid the transmission of orders from customers to wholesaler and from wholesaler to manufacturers.
  - Automatic dialing equipment.
  - Automatic recording equipment for simple order placement.
- These products and inexpensively priced voice response equipment on inventory hook-up via the telephone are some items that would increase productivity and provide better customer service.
- Vendors of word processing equipment must teach wholesalers how word processing can effectively be used in the industry, especially by the small establishments.
  - The attitude among wholesalers generally is that the computer can handle all of the important paperwork necessary for the business.

- Vendors aiming to sell to the majority of small wholesale non-durable goods establishments must be prepared to dispel that idea.
- Another approach is to produce a word processing terminal that can become another user station in a multi-user computer environment. This might also require a special software package for that particular computer system.



### III STRUCTURE OF THE WHOLESALE NON-DURABLE GOODS INDUSTRY



### III STRUCTURE OF THE WHOLESALE NON-DURABLE GOODS INDUSTRY

#### A. OVERVIEW

- The wholesale trade sector of the U.S. economy had revenues of \$673 billion in 1978, and employed about 4.5 million workers in over 145,000 businesses of all sizes.
- The wholesale trade sector is usually divided into durable goods wholesaling and non-durable goods wholesaling with non-durable goods accounting for a little more than 50% of the total revenues, but less than 50% of the employees and establishments.
- There are three different types of wholesaling:
  - Merchant wholesaling refers to establishments that are engaged primarily in buying, taking title to, usually storing, and physically handling goods in large quantities and reselling them to retailers or to industrial or business users.
  - Manufacturers' sales branches and sales offices (but not retail stores) maintained by the manufacturer separately from their plants for the purposes of marketing their products are included in the wholesaling industry.

- Merchandise or commodity agents and/or brokers, and commission merchants who do not stock or take title to the goods but provide a marketing service are also included.

## **B. WHOLESALE NON-DURABLE GOODS INDUSTRY**

- The wholesale non-durable goods industry group was created as a separate major sector, SIC 51, in 1972 when the SIC classification scheme was revised. SIC 51 is composed of the following subsectors, shown in Exhibit III-1.
- About 99% of the 145,000 non-durable goods establishments in 1976 had less than 100 employees, with 86% in the under 20 employee size group. Less than .01% had over 500 employees.
- SIC 514 (groceries and related products) and SIC 519 (miscellaneous goods) each account for about one-fourth of the number of establishments. The rest of the sub-sectors included in the wholesale non-durable goods industry each have a small fraction of the remaining number of establishments.
- Even though 86% of the establishments are in the 1-19 employee size group, this group does not contain the largest number of employees: it has only 39% of them.
- The 20-99 employee size group contains 41% of the employees as shown in Exhibit III-2.
- The average number of employees per establishment derived from the data in Exhibit III-2 are:

EXHIBIT III-1  
WHOLESALE NON-DURABLE GOODS  
INDUSTRY SUBSECTORS

| SIC  | INDUSTRY  |
|------|---|
| 511  | PAPER AND PAPER PRODUCTS  |
| 5111 | PRINTING AND WRITING PAPER  |
| 5112 | STATIONERY SUPPLIES   |
| 5113 | INDUSTRIAL AND PERSONAL SERVICE PAPER   |
| 512  | DRUG, DRUG PROPRIETARIES, AND DRUGGISTS' SUNDRIES                                     |
| 513  | APPAREL, PIECE GOODS, AND NOTIONS   |
| 5133 | PIECE GOODS   |
| 5134 | NOTIONS AND OTHER DRY GOODS   |
| 5136 | MEN'S AND BOY'S CLOTHING AND FURNISHINGS  |
| 5137 | WOMEN'S, CHILDREN'S, AND INFANT'S CLOTHING AND ACCESSORIES                            |
| 5139 | FOOTWEAR  |
| 514  | GROCERIES AND RELATED PRODUCTS  |
| 5141 | GENERAL LINE GROCERIES  |
| 5142 | FROZEN FOODS  |
| 5143 | DAIRY PRODUCTS  |
| 5144 | POULTRY AND POULTRY PRODUCTS  |
| 5145 | CONFECTIONERY   |
| 5146 | FISH AND SEAFOOD  |
| 5147 | MEATS AND MEAT PRODUCTS   |
| 5148 | FRESH FRUITS AND VEGETABLES   |
| 5149 | MISCELLANEOUS GROCERIES SUCH AS COFFEE, TEA, SPICES, AND BAKED GOODS                  |
| 515  | FARM PRODUCT RAW MATERIALS  |
| 5152 | COTTON  |
| 5153 | GRAIN   |
| 5154 | LIVESTOCK   |
| 5159 | MISCELLANEOUS FARM PRODUCT RAW MATERIALS SUCH AS HIDES, PELTS, LEAF TOBACCO, AND WOOL |

EXHIBIT III-1 (CONT.)

WHOLESALE NON-DURABLE GOODS

INDUSTRY SUBSECTORS

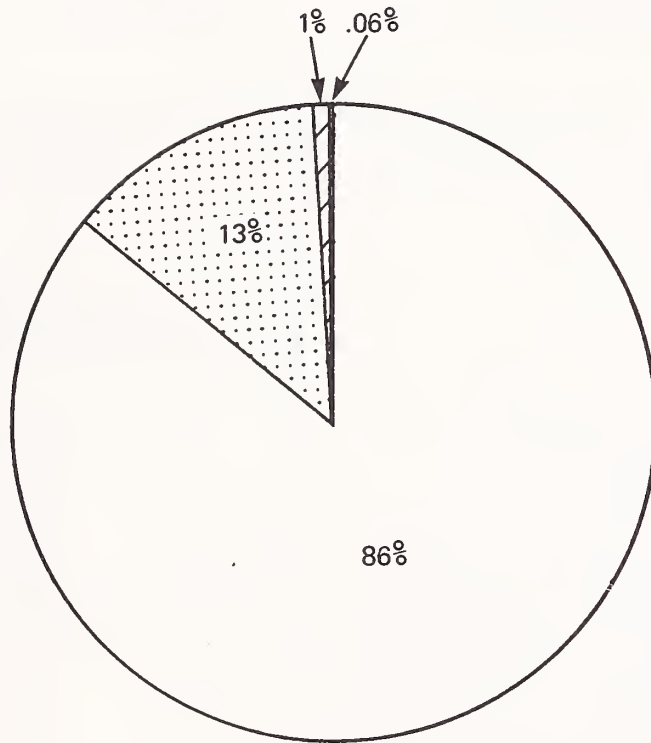
| SIC  | INDUSTRY  |
|------|---|
| 516  | CHEMICALS AND ALLIED PRODUCTS   |
| 517  | PETROLEUM AND PETROLEUM PRODUCTS  |
| 5171 | PETROLEUM BULK STATIONS AND TERMINALS   |
| 5172 | PETROLEUM AND PETROLEUM PRODUCTS WHOLE-SALERS, EXCEPT BULK STATIONS AND TERMINALS               |
| 518  | BEER, WINE, AND DISTILLED ALCOHOLIC BEVERAGES   |
| 5181 | BEER AND ALE  |
| 5182 | WINES AND DISTILLED ALCOHOLIC BEVERAGES   |
| 519  | MISCELLANEOUS NON-DURABLE GOODS   |
| 5191 | FARM SUPPLIES   |
| 5194 | TOBACCO AND TOBACCO PRODUCTS EXCEPT LEAF TOBACCO  |
| 5198 | PAINTS, VARNISHES, AND SUPPLIES   |
| 5199 | NON-DURABLE GOODS NOT ELSEWHERE CLASSIFIED SUCH AS BOOKS, PERIODICALS, FLOWERS, ART GOODS, ETC. |

EXHIBIT III-2

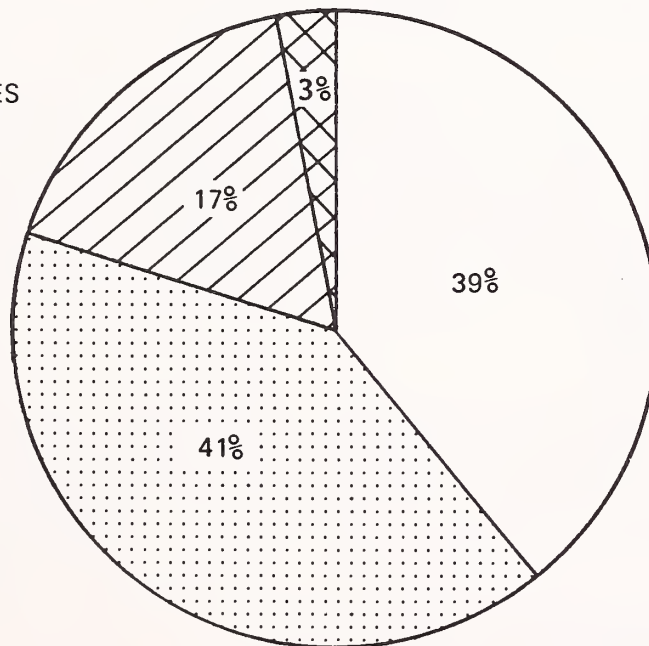
WHOLESALE NON-DURABLE GOODS

STRUCTURE OF THE INDUSTRY

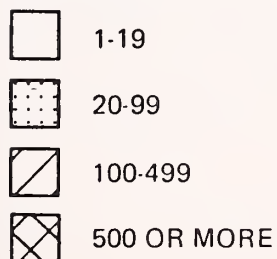
(1976 DATA)



PERCENTAGE OF EMPLOYEES  
(1,807,023 EMPLOYEES)



COMPANY SIZE BY  
EMPLOYEES



| <u>Establishment Size</u> | <u>Employees/Establishment</u> |
|---------------------------|--------------------------------|
| 1-19 employees            | 5.7                            |
| 20-99 employees           | 39.3                           |
| 100-499 employees         | 212.0                          |
| 500 and over employees    | 623.1                          |

- The average number of employees per establishment for each of the industries ranges from a low of 9.1 to a high of 24.6, with industry average at 12.5 employees per establishment.

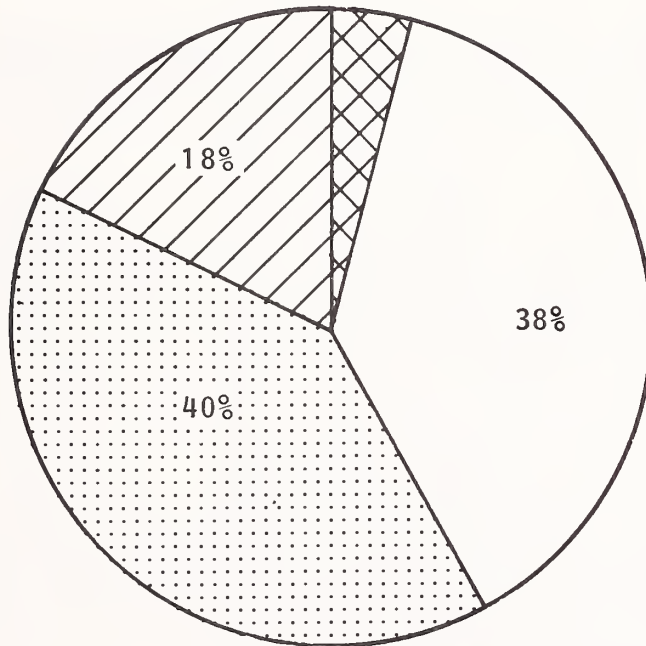
| <u>SIC</u> | <u>Industry</u>                  | <u>Employees/Establishment</u> |
|------------|----------------------------------|--------------------------------|
| 511        | Paper and paper products         | 13.2                           |
| 512        | Drugs and sundries               | 24.6                           |
| 513        | Apparel, piece goods and notions | 11.1                           |
| 514        | Groceries and related products   | 16.6                           |
| 515        | Farm product raw materials       | 9.6                            |
| 516        | Chemicals and allied products    | 12.6                           |
| 517        | Petroleum and petroleum products | 9.1                            |
| 518        | Alcoholic beverages              | 18.5                           |
| 519        | Miscellaneous goods              | 12.6                           |

- The most recently published census of the wholesale industry was based upon 1972 data and published in 1976. A more recent census was taken in 1977 but will not be published until 1980. Much of the revenue data presented in this study is based upon ratios that were derived from the 1972 study and applied to 1978 data.
- The revenue of all wholesale non-durable goods establishments in 1978 is estimated at \$342 billion. Exhibit III-3 shows the distribution of this revenue by:
  - Establishment size.

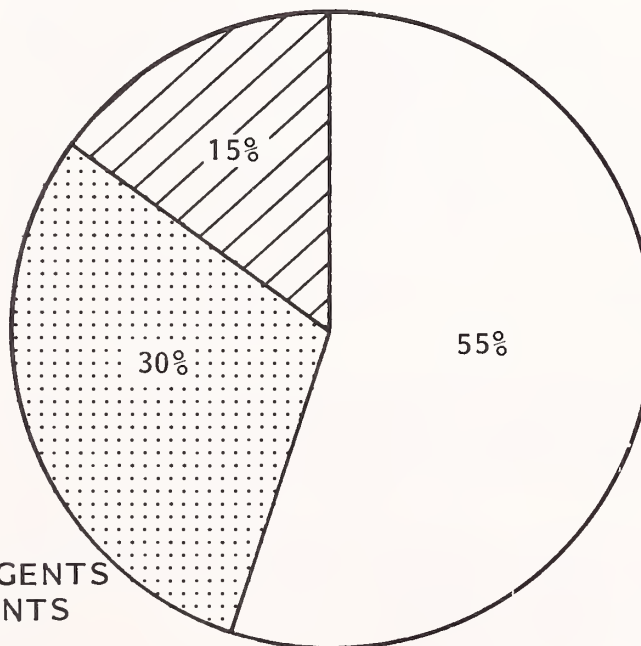
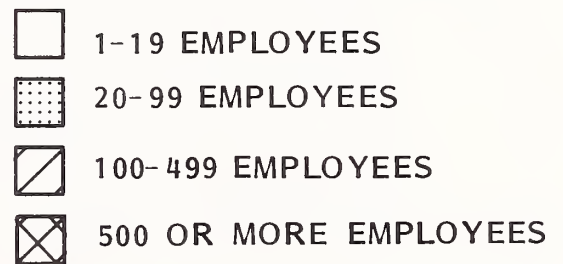
EXHIBIT III-3

WHOLESALE NON-DURABLE GOODS INDUSTRY  
ESTIMATED PERCENTAGES OF 1978 REVENUE

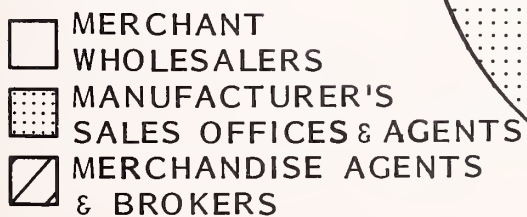
ESTIMATED 1978 REVENUE = \$342 BILLION



BY ESTABLISHMENT SIZE



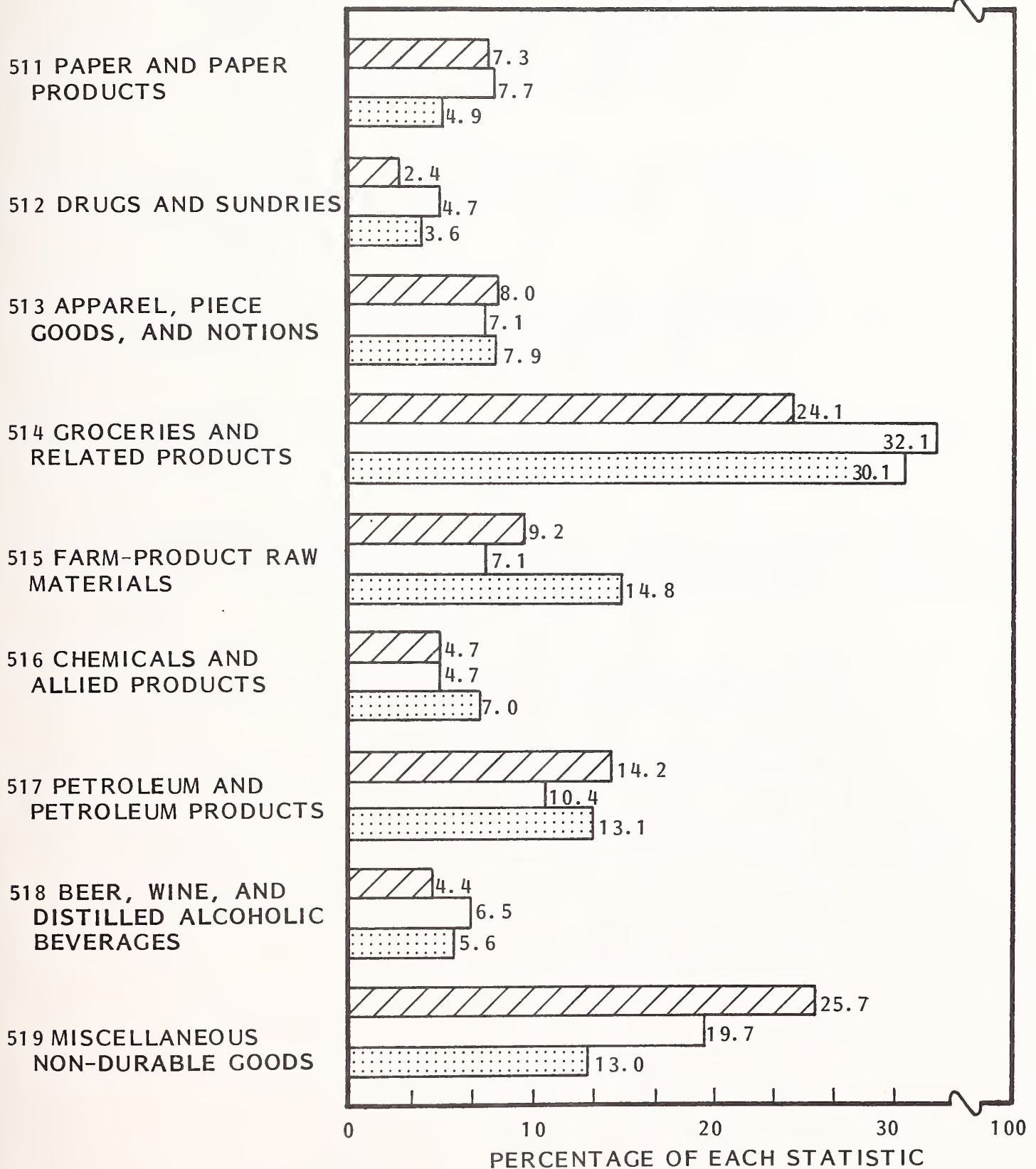
BY TYPE OF  
WHOLESALER






- Wholesaler type.
- Merchant wholesalers are the type of wholesaler that usually comes to mind when one talks about the wholesale sector. There are merchant wholesalers for durable and non-durable goods. These merchant wholesalers accounted for an estimated 55% of the 1978 revenues, or approximately \$188 billion.
- Manufacturers' sales agents accounted for an estimated \$103 billion, and merchandise agents and brokers accounted for an estimated \$51 billion in 1978.
- Food related establishments (SIC 514 and SIC 515) had almost 45% of the revenues in 1978. The rest was spread among the seven other industries in the sector (Exhibit III-4).
- In all three analyses of the industry subsectors - by establishment, by employees, and by revenues - the miscellaneous goods sector is the biggest or one of the biggest subdivisions. This group has an even higher percentage of establishments with less than 20 employees (over 90%) than the wholesale non-durable goods industry in general.
- There is no major concentration of establishments in this industry by geography. The little concentration that exists is based, to a great extent, upon the availability of products. New York is the only state with over 10% of the small establishments, and California, with 8.6%, has the next highest concentration. Both of these states are big importing states and serve as major distribution centers for their respective regions.
- Texas (6.4%) serves the same function for the South and Southwest and also is near the oil industry center.
- Illinois, with a concentration of 5.8%, serves as the major distribution center for the Midwest.

# EXHIBIT III-4

## WHOLESALE NON-DURABLE GOODS INDUSTRY - ESTABLISHMENTS, EMPLOYEES, AND REVENUE BY INDUSTRY SECTORS



-  ESTABLISHMENTS - 1976
-  EMPLOYEES - 1976
-  REVENUE - 1978

- There are some differences by region:

|   |   |       |
|---|---|-------|
| - | New England   | 4.7%  |
|   | Main, Massachusetts, Vermont,<br>Connecticut, New Hampshire, Rhode Island   |       |
| - | Mid Atlantic  | 19.0% |
|   | New York, Pennsylvania, New Jersey  |       |
| - | South Atlantic  | 13.7% |
|   | Delaware, Maryland, District of Columbia,<br>Virginia, West Virginia, North Carolina,<br>South Carolina, Georgia, Florida |       |
| - | East North Central  | 17.0% |
|   | Ohio, Indiana, Illinois, Michigan, Wisconsin  |       |
| - | West North Central  | 12.8% |
|   | Minnesota, Iowa, Missouri, North Dakota,<br>South Dakota, Nebraska, Kansas  |       |
| - | East South Central  | 5.9%  |
|   | Kentucky, Tennessee, Alabama, Mississippi   |       |
| - | West South Central  | 10.6% |
|   | Arkansas, Louisiana, Oklahoma, Texas  |       |
| - | Mountain  | 4.6%  |
|   | Montana, Idaho, Wyoming, Colorado,<br>New Mexico, Arizona, Utah, Nevada   |       |
| - | Pacific   | 12.0% |
|   | California, Oregon, Washington, Alaska,<br>Hawaii   |       |

- The regions fall into two groups:
  - Those with about 5% of the establishments (4.6% - 5.9%).
  - Those with about 15% of the establishments (10.6% - 19.0%).
- The three regions in the 5% group, and the six regions in the 15% group provide a fairly uniform distribution throughout the principal commercial areas of the United States (Exhibit III-5).
- The average 1978 revenue per wholesale non-durable goods establishment was \$2.4 million.
- The average 1978 revenue per wholesale non-durable goods employee was about \$190,000.
- Revenue is expected to grow between 10% and 11% per year. Exhibit III-6 shows the revenue growth curve from 1973 to 1983 for wholesale non-durable goods.
  - During the period 1973 to 1978 the AAGR was 10.6%.
  - A 10% AAGR was assumed for the next five year period.
- Sales for the entire wholesale industry group should pass the trillion dollar mark in 1982.

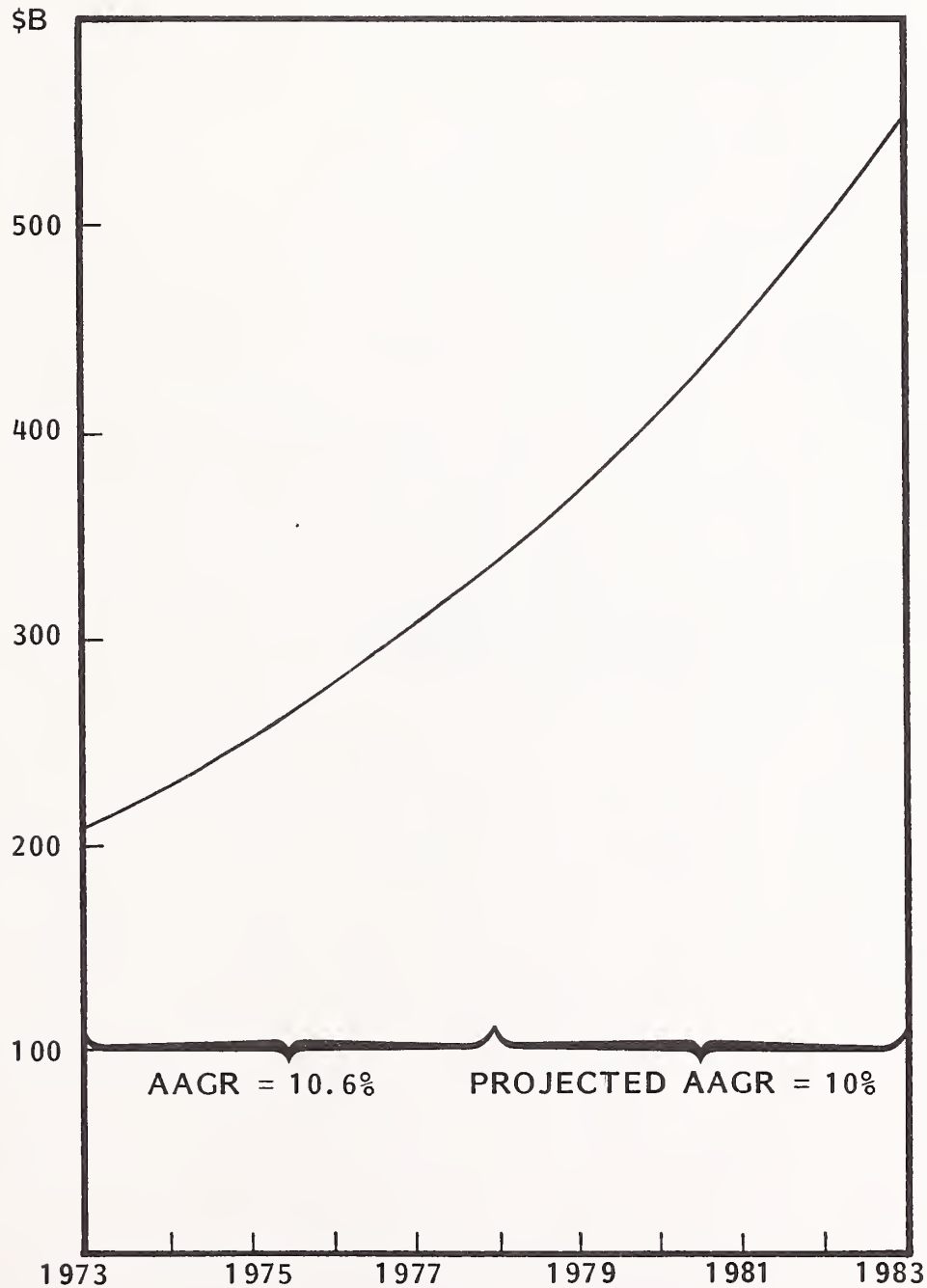
# EXHIBIT III-5

## DISTRIBUTION OF WHOLESALE NON-DURABLE GOODS INDUSTRY SMALL ESTABLISHMENTS BY STATE

| STATE                                | NUMBER OF<br>ESTABLISH-<br>MENTS | PERCENT OF<br>U.S. TOTAL | STATE | NUMBER OF<br>ESTABLISH-<br>MENTS | PERCENT OF<br>U.S. TOTAL |
|--------------------------------------|----------------------------------|--------------------------|-------|----------------------------------|--------------------------|
| AL                                   | 2,027                            | 1.4%                     | MT    | 860                              | .6%                      |
| AK                                   | 169                              | .1                       | NE    | 2,056                            | 1.4                      |
| AZ                                   | 1,142                            | .8                       | NV    | 339                              | .2                       |
| AR                                   | 1,574                            | 1.1                      | NH    | 411                              | .3                       |
| CA                                   | 12,401                           | 8.6                      | NJ    | 4,380                            | 3.0                      |
| CO                                   | 1,785                            | 1.2                      | NM    | 703                              | .5                       |
| CT                                   | 1,406                            | 1.0                      | NY    | 17,115                           | 11.8                     |
| DE                                   | 276                              | .2                       | NC    | 3,959                            | 2.7                      |
| DC                                   | 264                              | .2                       | ND    | 1,170                            | .8                       |
| FL                                   | 5,001                            | 3.4                      | OH    | 5,312                            | 3.7                      |
| GA                                   | 3,716                            | 2.6                      | OK    | 2,055                            | 1.4                      |
| HI                                   | 665                              | .5                       | OR    | 1,639                            | 1.1                      |
| ID                                   | 889                              | .6                       | PA    | 6,117                            | 4.2                      |
| IL                                   | 8,355                            | 5.8                      | RI    | 532                              | .4                       |
| IN                                   | 3,511                            | 2.4                      | SC    | 1,714                            | 1.2                      |
| IA                                   | 4,122                            | 2.8                      | SD    | 995                              | .7                       |
| KS                                   | 2,334                            | 1.6                      | TN    | 2,744                            | 1.9                      |
| KY                                   | 2,109                            | 1.5                      | TX    | 9,337                            | 6.4                      |
| LA                                   | 2,455                            | 1.7                      | UT    | 721                              | .5                       |
| ME                                   | 673                              | .5                       | VT    | 265                              | .2                       |
| MD                                   | 1,677                            | 1.2                      | VA    | 2,261                            | 1.6                      |
| MA                                   | 3,315                            | 2.3                      | WA    | 2,431                            | 1.7                      |
| MI                                   | 4,042                            | 2.8                      | WV    | 821                              | .6                       |
| MN                                   | 3,640                            | 2.5                      | WI    | 3,329                            | 2.3                      |
| MS                                   | 1,529                            | 1.1                      | WY    | 326                              | .2                       |
| MO                                   | 4,296                            | 3.0                      |       |                                  |                          |
| TOTAL NUMBER OF SMALL ESTABLISHMENTS |                                  |                          |       | 144,965                          | 100.0%                   |

EXHIBIT III-6

GROWTH AND PROJECTED GROWTH OF  
THE WHOLESALE NON-DURABLE GOODS INDUSTRY,  
1973-1983





IV USE OF INFORMATION PROCESSING  
AND COMMUNICATIONS EQUIPMENT  
AND SERVICES



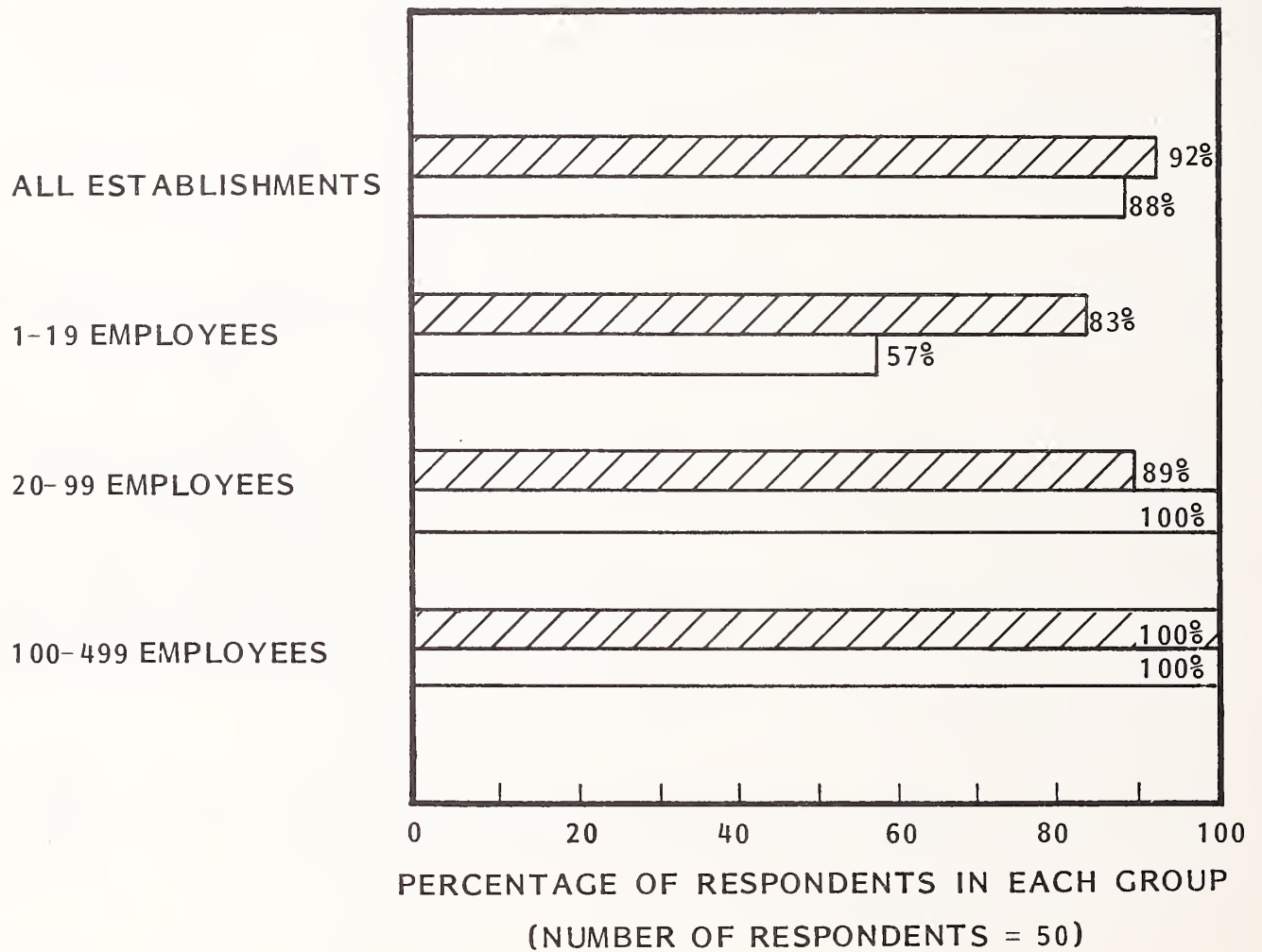
## IV USE OF INFORMATION PROCESSING AND COMMUNICATIONS EQUIPMENT AND SERVICES

### A. COMPUTER EQUIPMENT AND SERVICES

- The U.S. Department of Commerce estimates that 67% of the total wholesale industry uses computers in some form.
  - This estimate includes use as high as 90% in the drug and grocery sectors.
- INPUT estimates that in the wholesale non-durable goods industry, the use of computers in some form is at the 90% level for both independents and branches of large corporations.
  - This penetration varies by establishment size as shown in Exhibit IV-1. All of the establishments of the 100-499 employee size make use of computers in some way.
  - As the size decreases to the 20-99 employee size level, the use of computers by the branches decreases slightly (11%) and by the independents not at all.
  - In the smallest size group (1-19 employees), the use of computers falls off to 57% for the independents and to 83% for the branches of large corporations.

EXHIBIT IV-1

WHOLESALE NON-DURABLE GOODS INDUSTRY  
RESPONDENTS' USE OF AUTOMATION

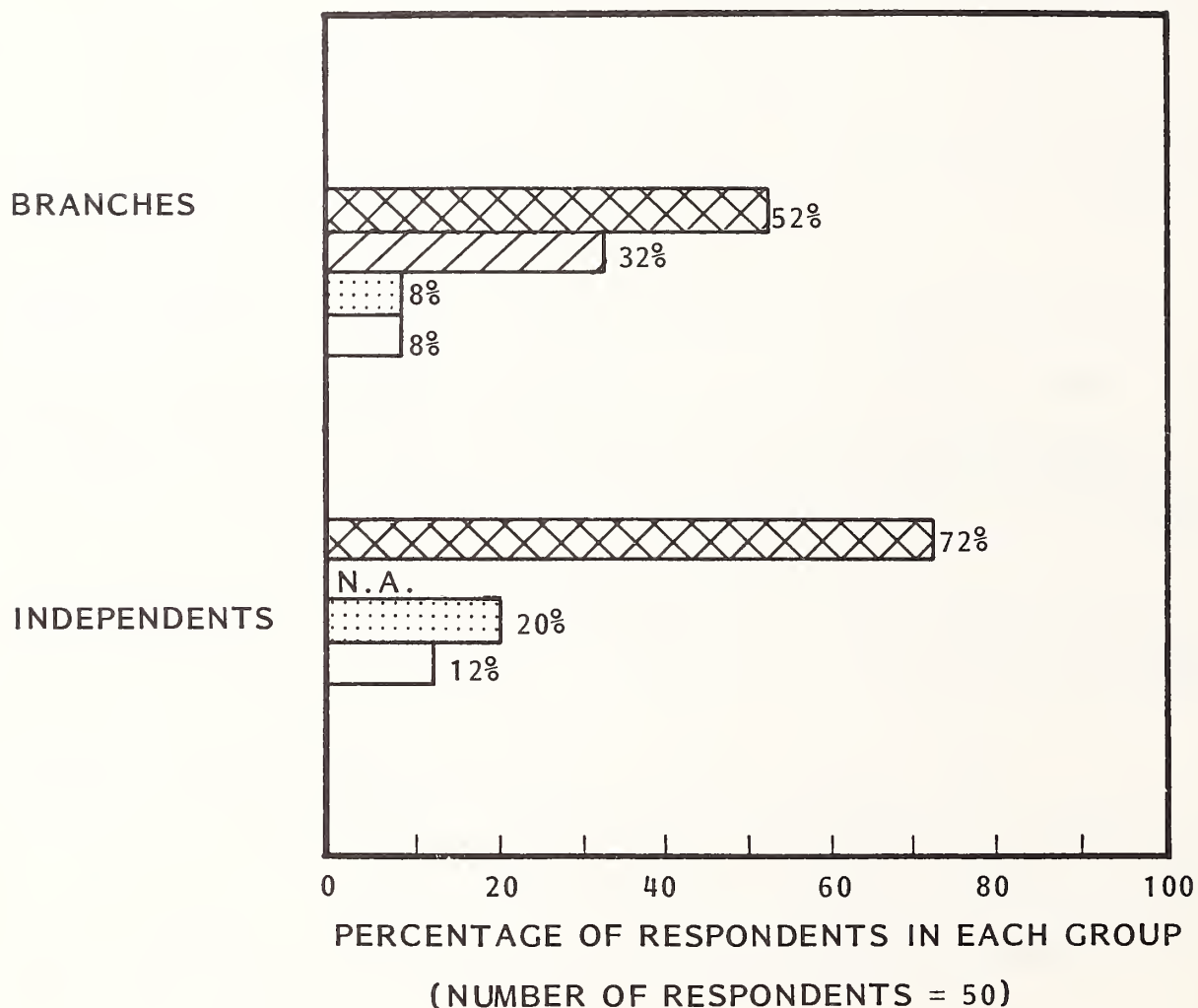






☒ BRANCH  
☐ INDEPENDENT

- Computers are the key to increased productivity. The systems are used to step up efficiency in both the receipt of orders from customers and in the placement of orders with manufacturers.
- Automated two-way computer communications systems allow direct transmission of orders to the wholesaler and from the wholesaler to the manufacturer when necessary.
- The two major benefits of these systems to the wholesaler are:
  - Improvement in order turnaround to his retailers.
  - Better monitoring of orders, permitting major inventory reductions.
- While overall current use of computers by branches of large companies and independent establishments is comparable (92% to 88%), the components of those totals are not so uniform:
  - Only 52% of the branches have their own system, versus 72% of the independents (Exhibit IV-2).
  - Twice as many branches use computer services as the independents (40% to 20%), although most of the branches that use services, use services provided by company headquarters.
- On-site computer systems increase as the establishments increase in size.
  - Branch use of on-site systems doubles between the 1-19 employee size establishments and the 20-99 employee size establishments, but almost triples in moving from the medium size (20-99 employees) to the large size (100-499 employees) establishments (Exhibit IV-3).

# EXHIBIT IV-2

## WHOLESALE NON-DURABLE GOODS INDUSTRY LOCATION OF COMPUTERS OR COMPUTER SERVICES USED BY RESPONDENTS - 1979

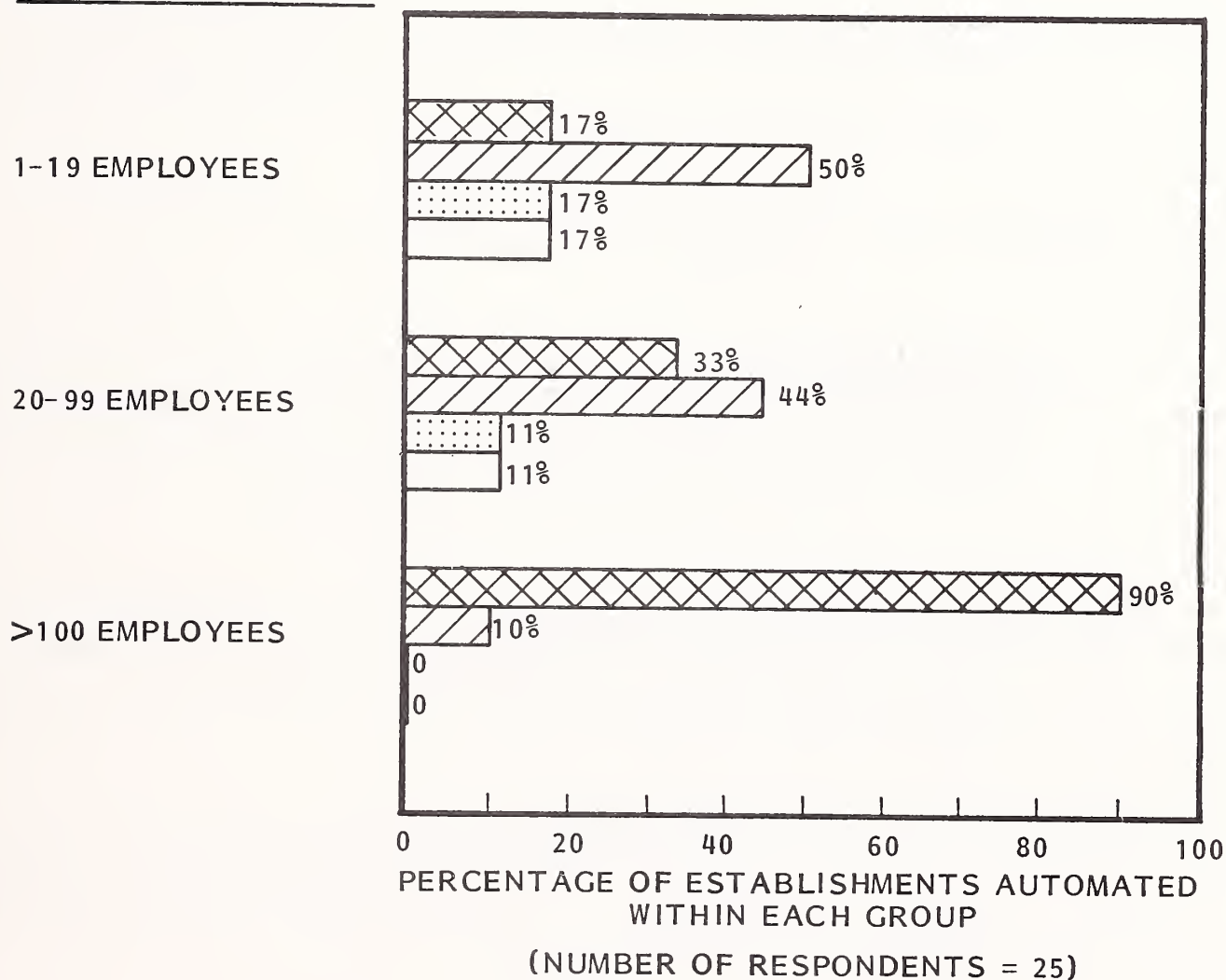






-  RESPONDENT'S ESTABLISHMENT
-  ANOTHER LOCATION WITHIN RESPONDENT'S COMPANY
-  A COMPUTER SERVICE
-  DON'T USE COMPUTERS

NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF COMPUTERS AT MULTIPLE LOCATIONS

EXHIBIT IV-3  
 WHOLESALE NON-DURABLE GOODS INDUSTRY  
 LOCATION OF COMPUTERS OR COMPUTER SERVICES  
 USED BY RESPONDENTS - BRANCHES  
 OF LARGE COMPANIES - 1979

ESTABLISHMENT SIZE



-  RESPONDENT'S ESTABLISHMENT
-  ANOTHER LOCATION WITHIN RESPONDENT'S COMPANY
-  A COMPUTER SERVICE
-  DON'T USE COMPUTERS

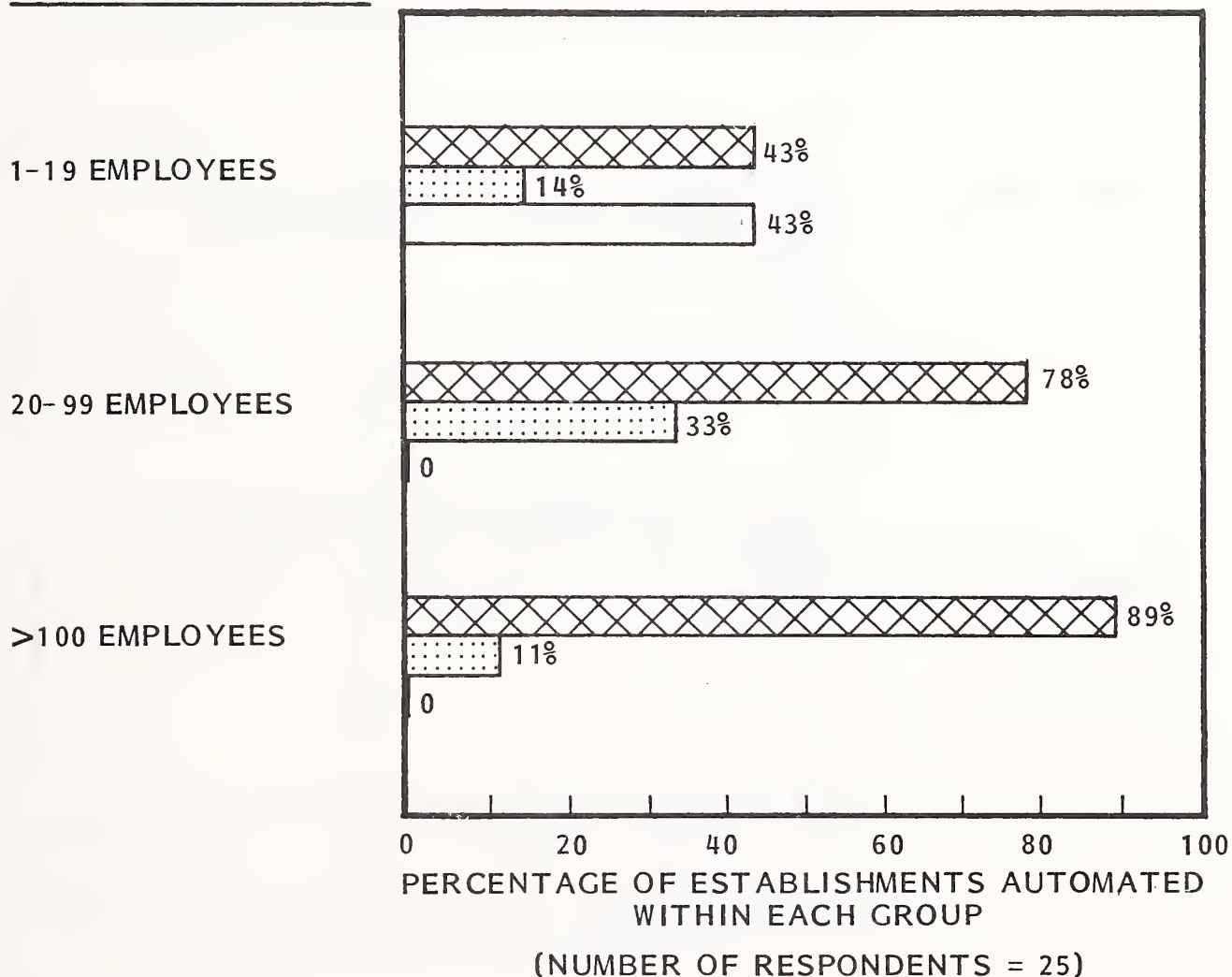
NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF COMPUTERS AT MULTIPLE LOCATIONS




- The increases in on-site usage with the independents is less dramatic and reaches the 78% penetration level in the medium size (20-99 employees) group (Exhibit IV-4).
- The use of outside computer services decreases as branch size increases, and such services are not used by the large size (100-499 employees) branches.
  - Outside services are used by all sizes of independent establishments, with the highest percentage of use (33% of the respondents) among the medium size independent establishments.
- By 1984 virtually all branches will be using computers in some fashion:
  - Seventy-two percent will have their own system. This growth (up from 52% in 1979) will come from the establishments that previously used both corporate computer services and outside service vendors, as well as from the "new to computers" group (Exhibit IV-5).
  - The use of on-site hardware in the branches will still increase as the branch size increases. The percentage of branches at the small (1-19 employees) size and medium (20-99 employees) size levels that have their own systems will double by 1984.
  - The small size group will increase from a 17% penetration level to 33%, and the medium size group will increase its penetration level from 33% to 67%.
  - The large (100-499 employees) branches will all have their own system by 1984 (Exhibit IV-6).
- Among the small (1-19 employees) branches, the use of computer services is not projected to change.

# EXHIBIT IV-4

## WHOLESALE NON-DURABLE GOODS INDUSTRY LOCATION OF COMPUTERS OR COMPUTER SERVICES USED BY RESPONDENTS - INDEPENDENT ESTABLISHMENTS - 1979

### ESTABLISHMENT SIZE

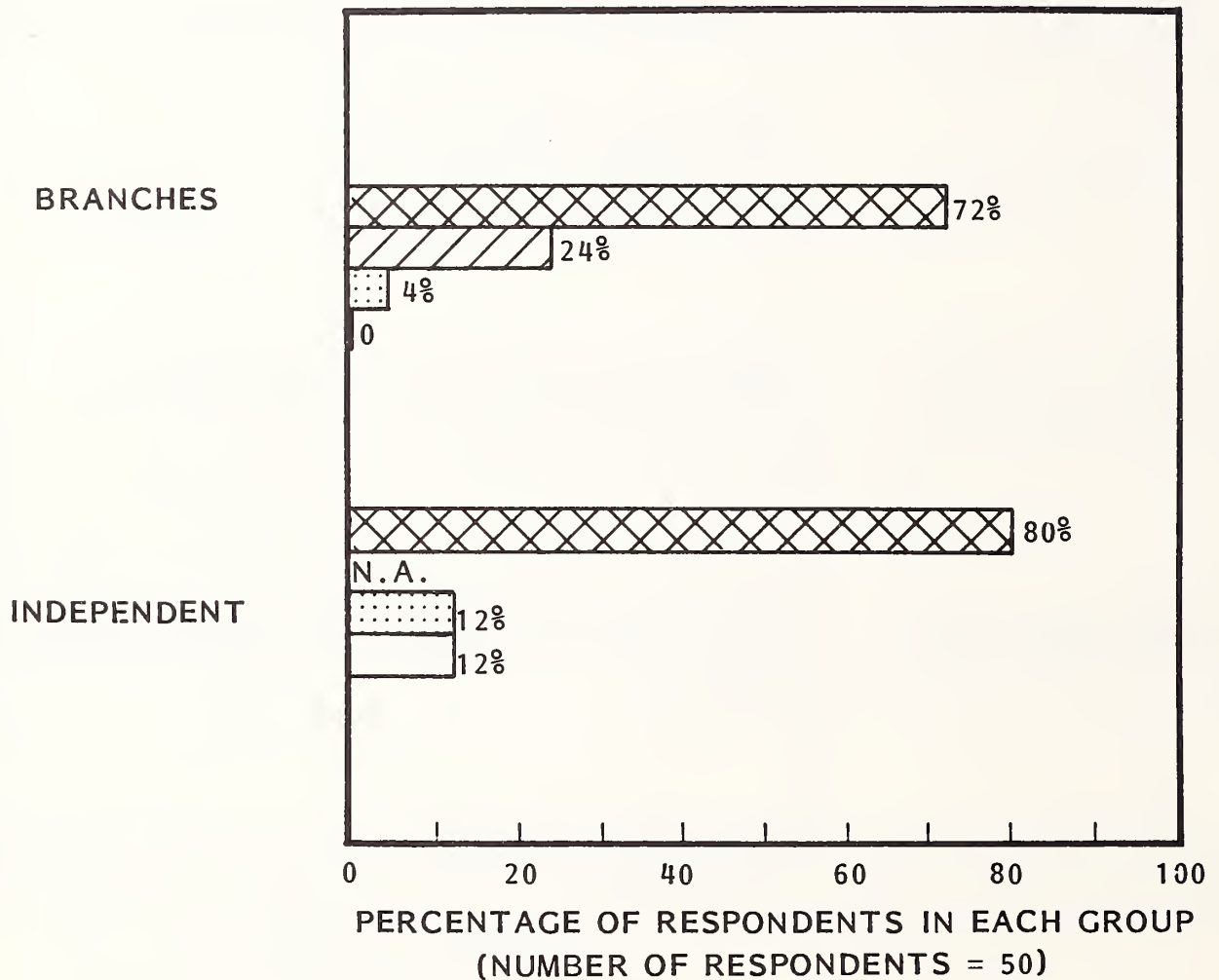


-  RESPONDENT'S ESTABLISHMENT
-  A COMPUTER SERVICE
-  DON'T USE COMPUTERS

NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF COMPUTERS AT MULTIPLE LOCATIONS

# EXHIBIT IV-5

## WHOLESALE NON-DURABLE GOODS INDUSTRY PLANNED LOCATION OF COMPUTERS OR COMPUTER SERVICES IN USE BY RESPONDENTS IN 1984



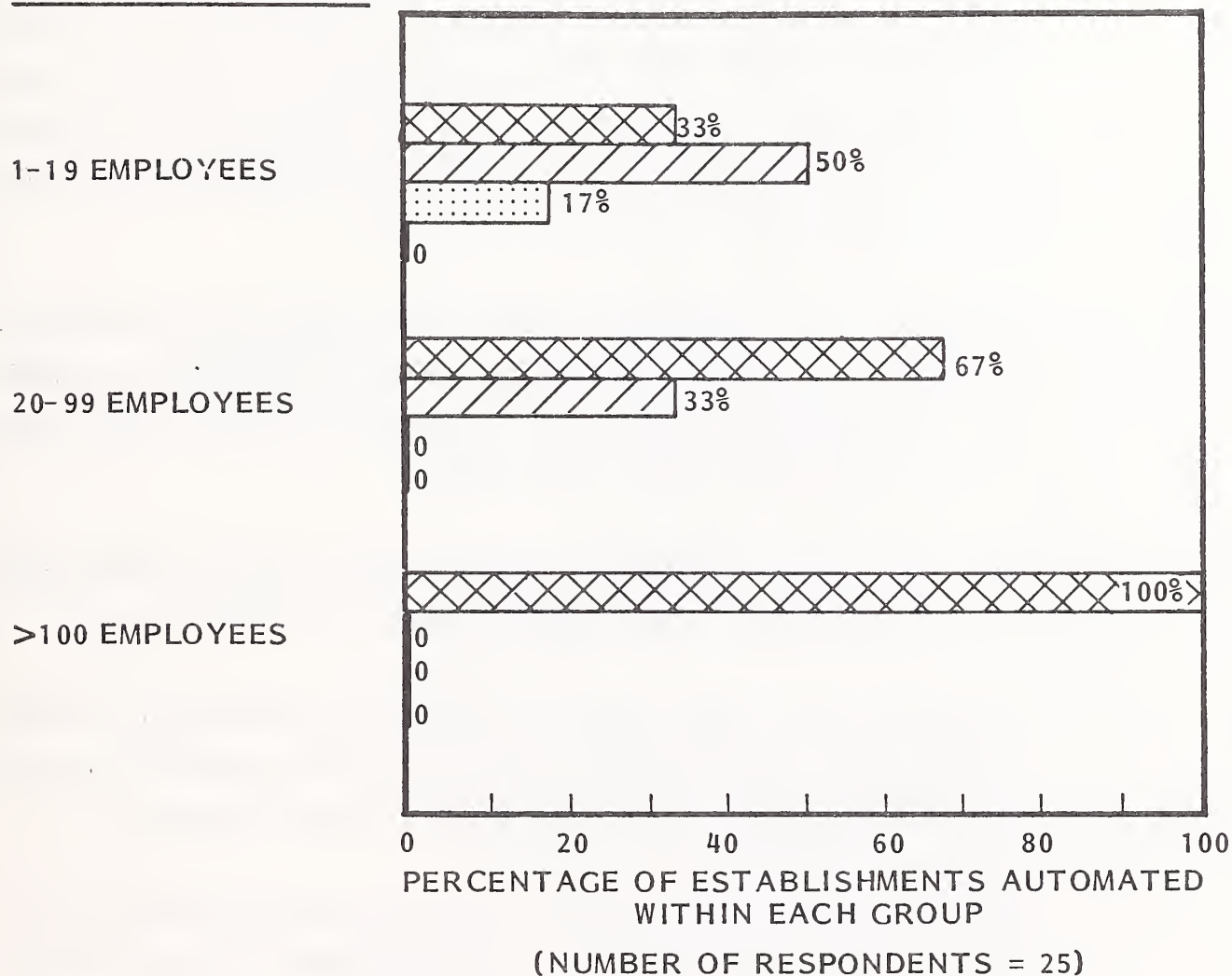
- ☒ RESPONDENT'S ESTABLISHMENT
- ☒ ANOTHER LOCATION WITHIN RESPONDENT'S COMPANY
- ☒ A COMPUTER SERVICE
- ☐ DON'T USE COMPUTERS

NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF COMPUTERS AT MULTIPLE LOCATIONS

# EXHIBIT IV-6

## WHOLESALE NON-DURABLE GOODS INDUSTRY PLANNED LOCATION OF COMPUTERS OR COMPUTER SERVICES IN USE BY RESPONDENTS IN 1984 - BRANCHES OF LARGE COMPANIES

### ESTABLISHMENT SIZE



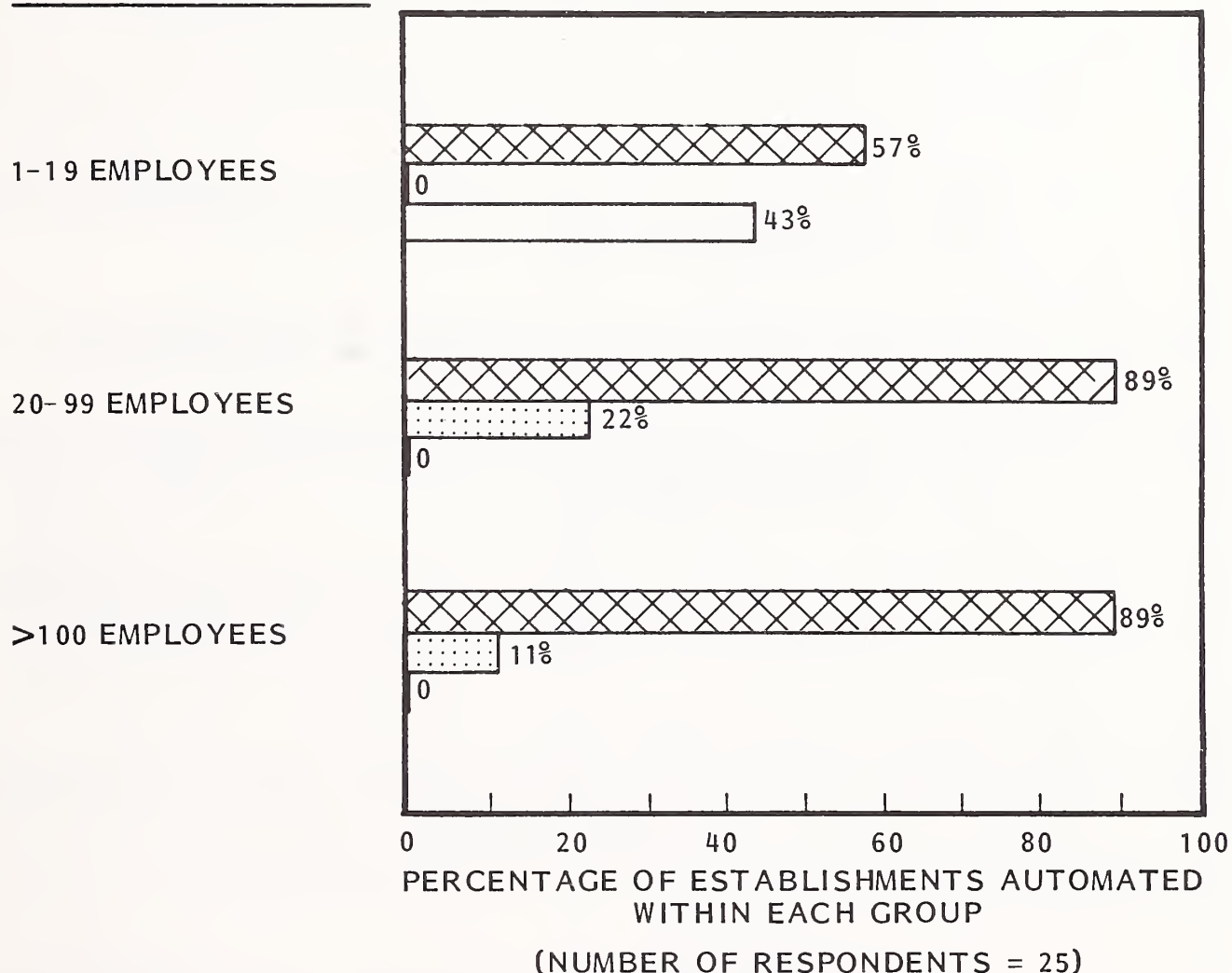
- ☒ RESPONDENT'S ESTABLISHMENT
- ☒ ANOTHER LOCATION WITHIN RESPONDENT'S COMPANY
- ☒ A COMPUTER SERVICE
- ☐ DON'T USE COMPUTERS




NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF COMPUTERS AT MULTIPLE LOCATIONS

- The growth in the use of on-site systems will come from the group that currently do not use computers at all.
- Among the survey respondents, the use of outside services in the medium (20-99 employees) size branches will disappear by 1984.
  - While this will not be true for the entire population of medium size branches, it does reflect the feeling that acquisition of an on-site computer will reduce information processing costs in the near future. The external expense of outside computing services is most vulnerable, and as on-site computing power increases, internal computing services from the corporate headquarters will decrease.
  - Computer services companies, aware of this trend, are attempting to sell current users and new users on-site systems that will be competitive with standalone hardware. In addition, they are selling their software experience in specific industries.
- The trend toward in-house systems will continue between 1979 and 1984 among the independent wholesalers surveyed for this report.
  - In the small (1-19 employees) size independent establishments, the level of automation is not projected to change (57%), but a shift from the use of outside service vendors toward in-house systems is expected.
  - The medium size (20-99 employees) independent establishments surveyed are currently 100% automated. As establishments acquire their own systems, during the 1979-1984 period, the use of outside computer services will decrease among the medium size respondents from 33% in 1979 to 22% in 1984 (Exhibit IV-7).
- The respondents felt that having their own system is:
  - "More practical."

EXHIBIT IV-7  
WHOLESALE NON-DURABLE GOODS INDUSTRY  
PLANNED LOCATION OF COMPUTERS OR  
COMPUTER SERVICES IN USE BY RESPONDENTS  
IN 1984 - INDEPENDENT ESTABLISHMENTS

ESTABLISHMENT SIZE



-  RESPONDENT'S ESTABLISHMENT
-  A COMPUTER SERVICE
-  DON'T USE COMPUTERS

NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF COMPUTERS AT MULTIPLE LOCATIONS

- "Cheaper in the long run."
- "More efficient."
- "Necessary for growing companies."
- "Important, so the system can be geared to company's specific needs."
- The variety of systems located among the respondents is shown in Exhibit IV-8.
  - IBM, Burroughs, and NCR Systems are generally installed because they have the appropriate software.
  - Qantel provided the software specifically for one establishment.
  - The Philips system will be replaced by a Burroughs system, chosen for the customer by a consultant.
  - Much of the older equipment will be replaced by systems that can more easily be expanded as the establishment grows.
- The customer for the Qantel system believes that the software is being written specifically for him and it really doesn't matter whether Qantel is modifying standard or perhaps generalized packages to fit his specific situation.
  - This is frequently how vendors obtain industry specific packages. The work is justified on the basis that it will be salable as a standard package to similar establishments in that particular industry.
- The independent respondents used standard programs to a reasonable extent. Exhibit IV-9 shows 45% using standard or modified standard programs.

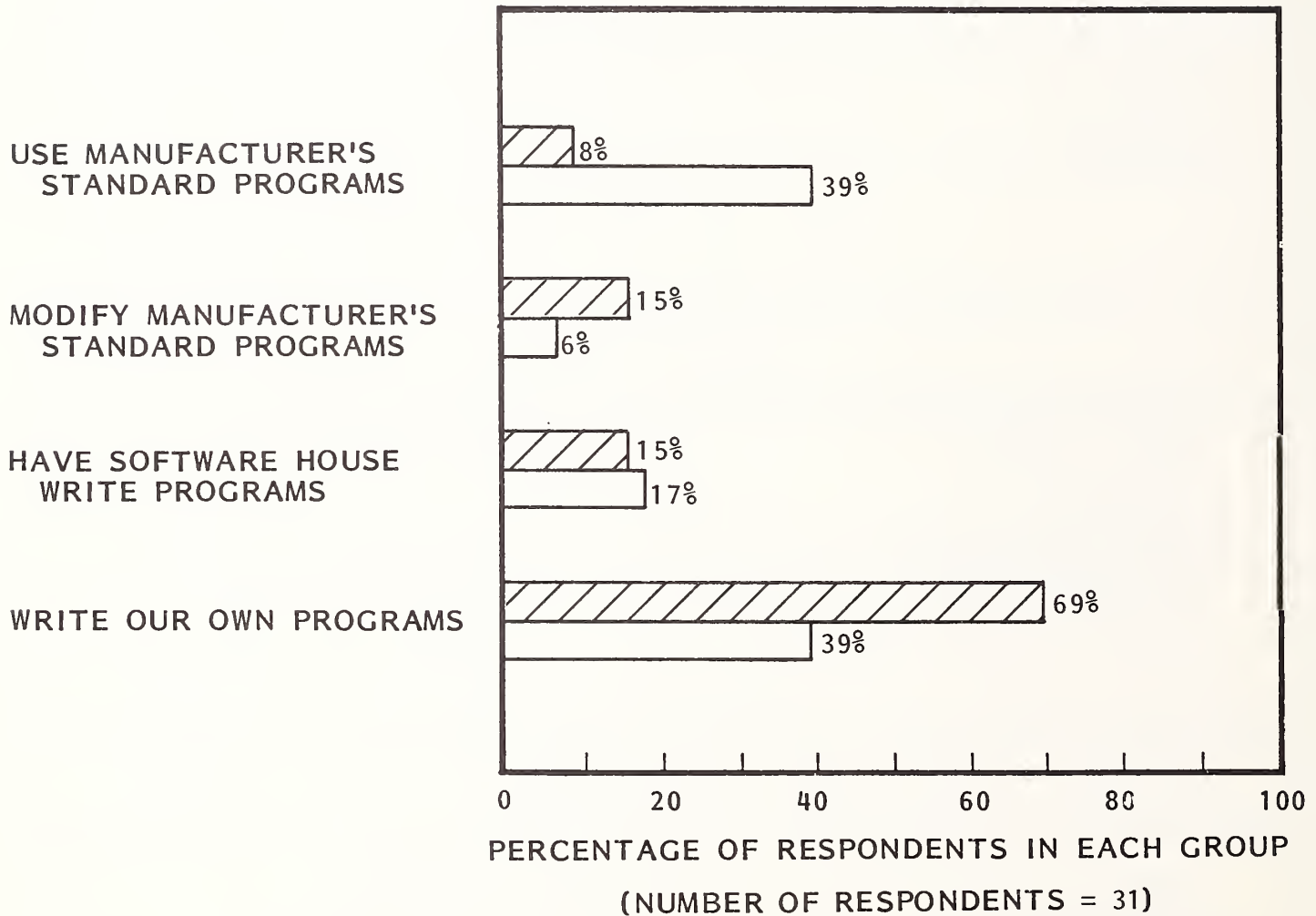
# EXHIBIT IV-8

## WHOLESALE NON-DURABLE GOODS INDUSTRY COMPUTER MODELS LOCATED AT RESPONDENTS' ESTABLISHMENTS

| INDEPENDENTS   | BRANCHES  |
|--|---|
| 1-19 EMPLOYEES   |   |
| IBM S /32<br>NCR 160<br>QANTEL   | IBM S /34   |
| 20-99 EMPLOYEES  |   |
| IBM S /3-MOD 12<br>IBM S /3-MOD 15<br>IBM S /34<br>BURROUGHS L8000<br>BURROUGHS B80<br>BURROUGHS B700<br>PHILIPS OFFICE COMPUTER | IBM S /3-MOD 12<br>IBM S /34  |
| 100-499 EMPLOYEES  |   |
| IBM S /3<br>IBM 360/20<br>IBM 370/138<br>NCR 8200<br>NCR 8250<br>BURROUGHS L9000   | IBM S /3-MOD 12<br>IBM S /3-MOD 15<br>IBM S /7<br>IBM 360/30<br>IBM 370/135<br>IBM 370/148<br>IBM 3031<br>NCR 399 |

EXHIBIT IV-9

WHOLESALE NON-DURABLE GOODS INDUSTRY  
HOW DO YOU OBTAIN YOUR COMPUTER PROGRAMS?



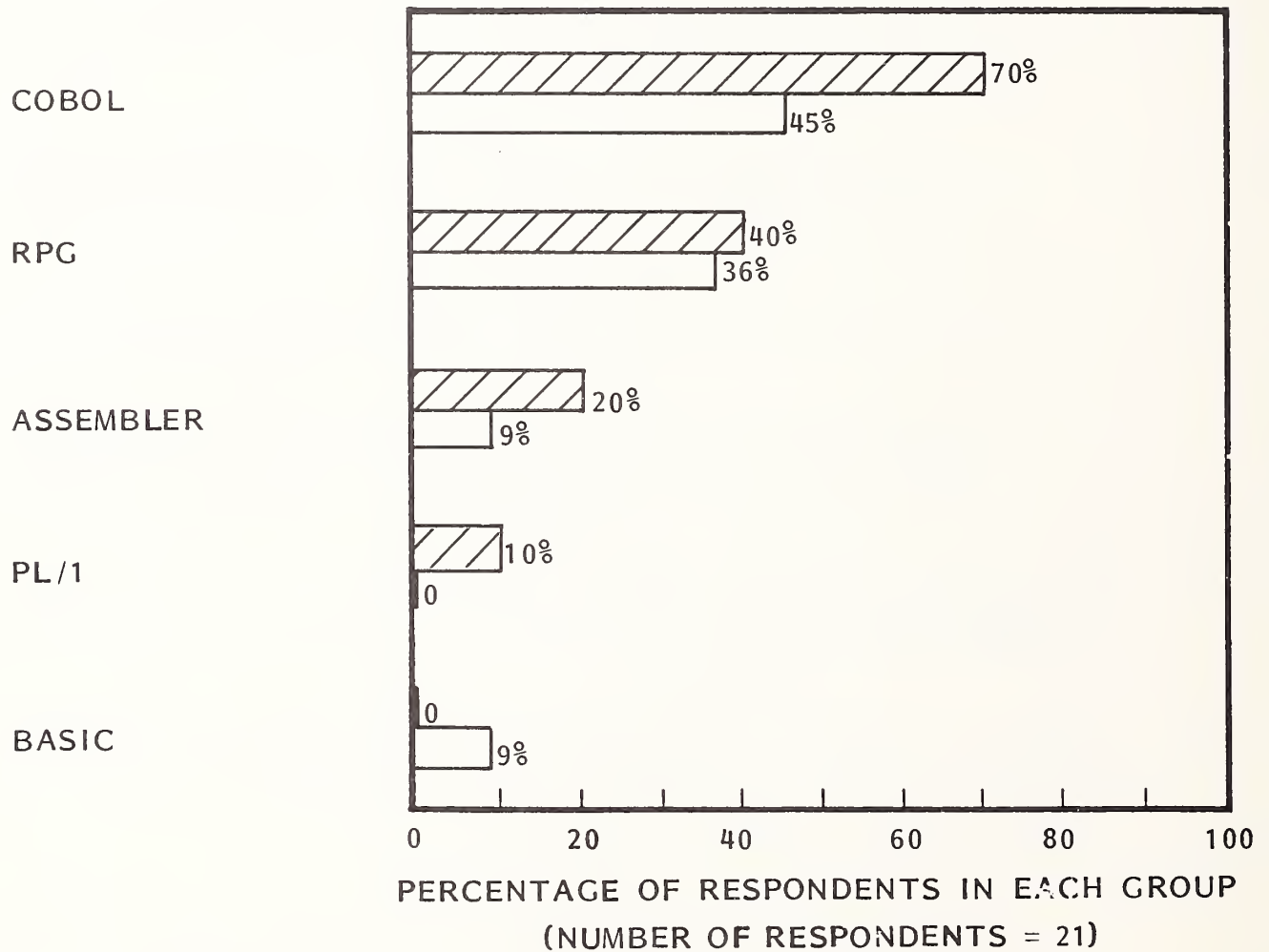
 BRANCH  
 INDEPENDENT

NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF MULTIPLE SOURCES FOR PROGRAMS

- The branches generally made use of standard programs (modified or unmodified) about half as frequently as the independents (23%).
- Software houses are a resource that small wholesale non-durable goods establishments feel are too expensive at this time.
  - The larger (100-499 employees) establishments have their own staff and only go to an outside resource in very special, short-term, quick turnaround, emergency situations.
  - The smaller (under 100 employees) establishments make minimal use of the unique services of the software house.
- The majority of the branches write their own programs.
  - The tendency to write the application programs in-house increases as the branch size increases (within the context of SES).
- To a lesser extent, this tendency also follows for the independent small establishments.
- COBOL is the programming language of choice for those branches that have their own systems. It is not the only language used, but 70% of the branch installations use it compared with 40% that use RPG.
  - Several branches reported using more than one language, but only one branch used COBOL and RPG. The others combined COBOL or RPG with Assembler, Basic, or PL/I (Exhibit IV-10).
- The situation at the independents' installations is not as clear. Only 45% report using COBOL as the language for their application programming and 36% report using RPG.

EXHIBIT IV-10

WHOLESALE NON-DURABLE GOODS INDUSTRY  
COMPUTER PROGRAMMING LANGUAGES USED ON  
COMPUTERS INSTALLED AT RESPONDENTS' ESTABLISHMENTS



 BRANCH  
 INDEPENDENT

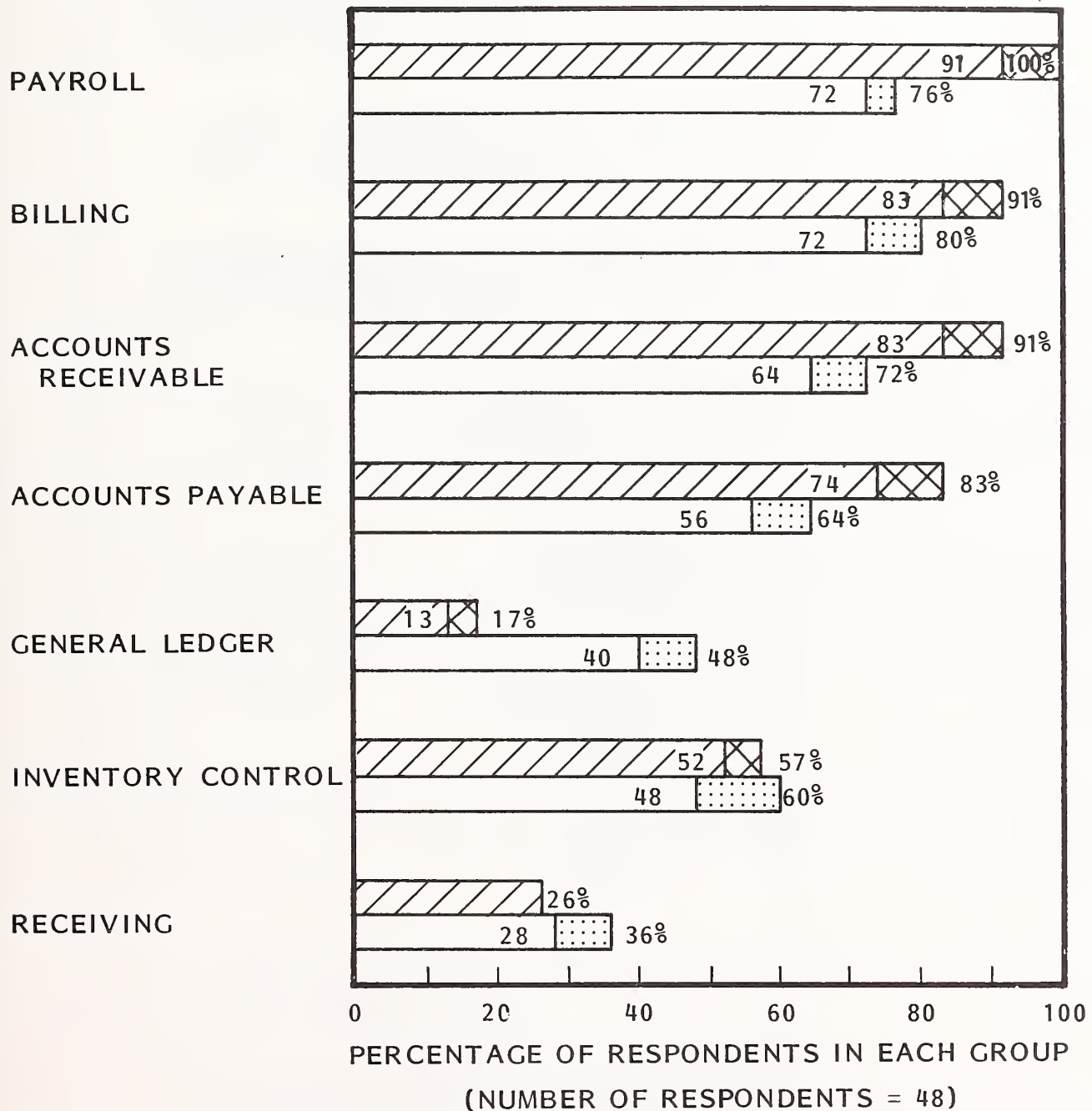
NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO USE OF MULTIPLE LANGUAGES.

- No independent small establishment reported using more than one language.
- There is no apparent common thread between the branches that are using multiple languages.
  - Some have large systems and some have small systems.
  - Some have a single system and some have multiple systems.
  - The influence of the corporate computer center could be the reason that these organizations support two languages and bear the extra expense of either multi-lingual personnel or separate personnel skilled in each language. However, this expertise could reside with a single person.
- The applications area for the wholesale industry in general is not distinctive. The major wholesaling functions are standard business functions that all enterprises must carry out. All companies:
  - Bill.
  - Purchase materials.
  - Ship.
  - Maintain an inventory.
- In the wholesale industry, some of these functions are of much greater importance than in other industries. In addition to selling, such functions as purchasing and inventory control are the mainstay of a successful wholesale operation.

- The applications listed in Exhibit IV-11 frequently are available in a software package from the computer vendor or from the computer services vendor.
  - No establishment has to implement every capability in a package, but since many of the programs use a common file structure and data base, using the related programs is generally easy.
  - These industry oriented fundamental programs are in the accounting/finance area and in inventory control.
- The branches using the larger corporate computer center, which has more hardware and system resources available, tend to implement more of the industry packages than the independents.
  - If the parent company has several branches in wholesale operations, then implementing the entire package is more easily justified.
  - The current penetration level of particular applications - payroll, billing, A/R, A/P, order entry, and sales analysis - is about 10 to 20 percentage points greater in the branches than in the independents.
  - Even though additional establishments will be implementing these applications during the next five years, the spread is not expected to change by 1984.
- The independents show a much greater implementation level for "general ledger" than the branches because the branch data is incorporated into a corporate general ledger.
- In the area of stock handling, the independents have either implemented these functions more frequently than the branches and/or expect to put much more effort in these areas during the next five years.

# EXHIBIT IV-11

## WHOLESALE NON-DURABLE GOODS INDUSTRY APPLICATIONS IMPLEMENTED BY RESPONDENTS CURRENTLY AND EXPECTED TO BE IMPLEMENTED BY 1984



1979



BRANCH



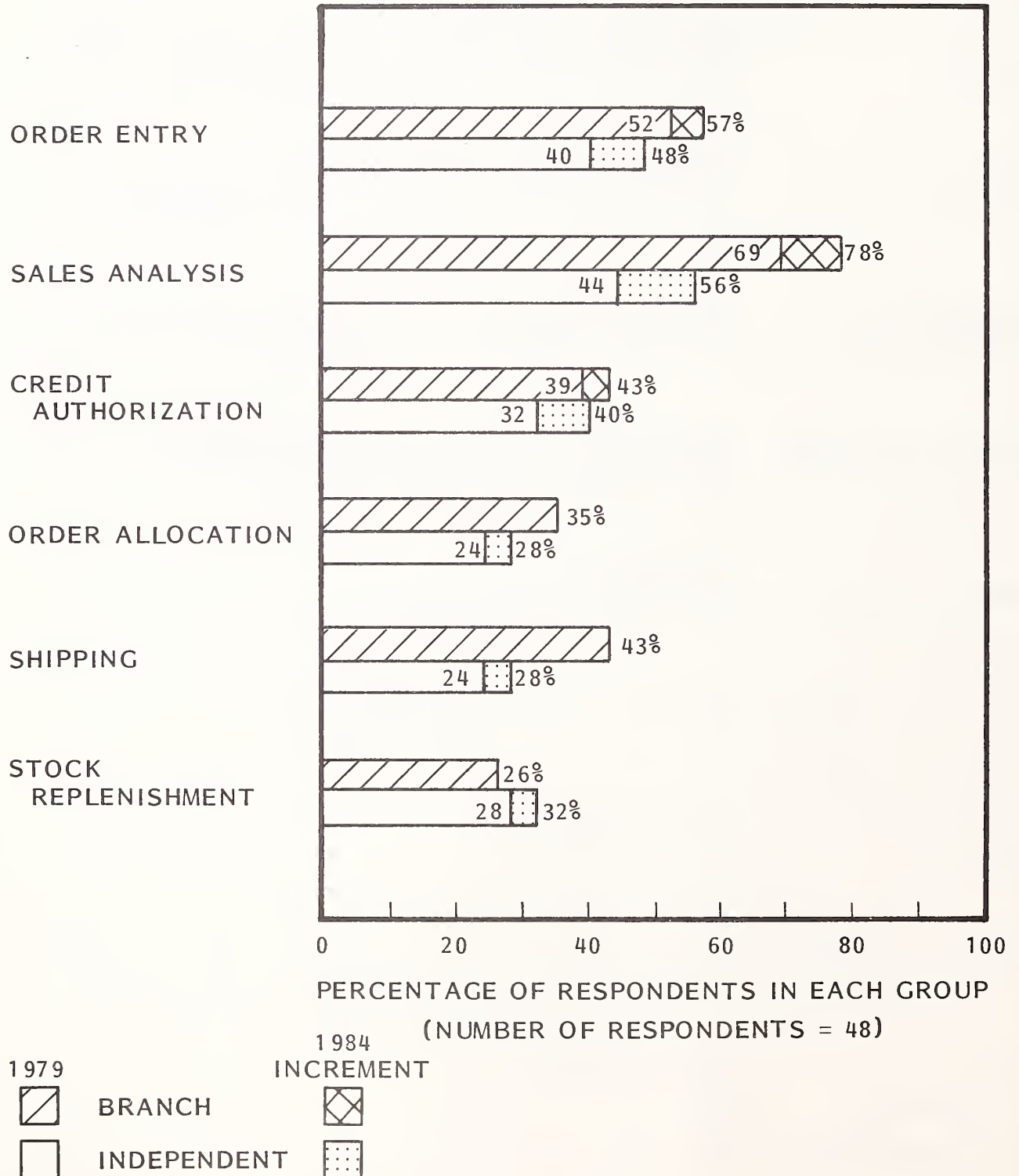
INDEPENDENT

1984 INCREMENT



# EXHIBIT IV-11 (CONT.)

## WHOLESALE NON-DURABLE GOODS INDUSTRY APPLICATIONS IMPLEMENTED BY RESPONDENTS CURRENTLY AND EXPECTED TO BE IMPLEMENTED BY 1984



- Inventory control, receiving, shipping, and stock replenishment will be active areas for the independent establishments.
- General ledger, credit authorization, and order allocation will also be active areas for the independents.
- The applications listed in Exhibit IV-12 are also general business applications that take on greater importance in the wholesale industry.
  - These applications will be implemented by some non-durable goods wholesalers during the next five years.
- Most of the applications in the non-durable goods industry are automated using computer services as well as on-site systems.
  - Exhibit IV-13 separates those applications implemented by branches using the corporate computer center from those applications being run at an outside computer services vendor site by the independents.
  - The computer services vendors might increase their penetration in the wholesale non-durable goods industry by providing some of the applications used by the industry but not obtained at the time from services vendors.
- The computer services users in the wholesale non-durable goods industry make much greater use of interactive terminals for their applications than many other industries.
  - Half of the independents and 43% of the branches are on-line interactively (Exhibit IV-14).
  - Half of the branches still find that there is no time dependency associated with much of the data, and that the proximity of the data service center to the establishment permits physical delivery by

EXHIBIT IV-12

WHOLESALE NON-DURABLE GOODS INDUSTRY  
INDUSTRY SPECIFIC APPLICATIONS BEGINNING  
TO BE IMPLEMENTED

- MONTHLY PROFIT AND LOSS ACCOUNTING
- EXPENSE ACCOUNTING
- DEPRECIATION
- FIXED ASSETS ACCOUNTING
- PURCHASING ANALYSIS
- MERCHANDISE IN TRANSIT

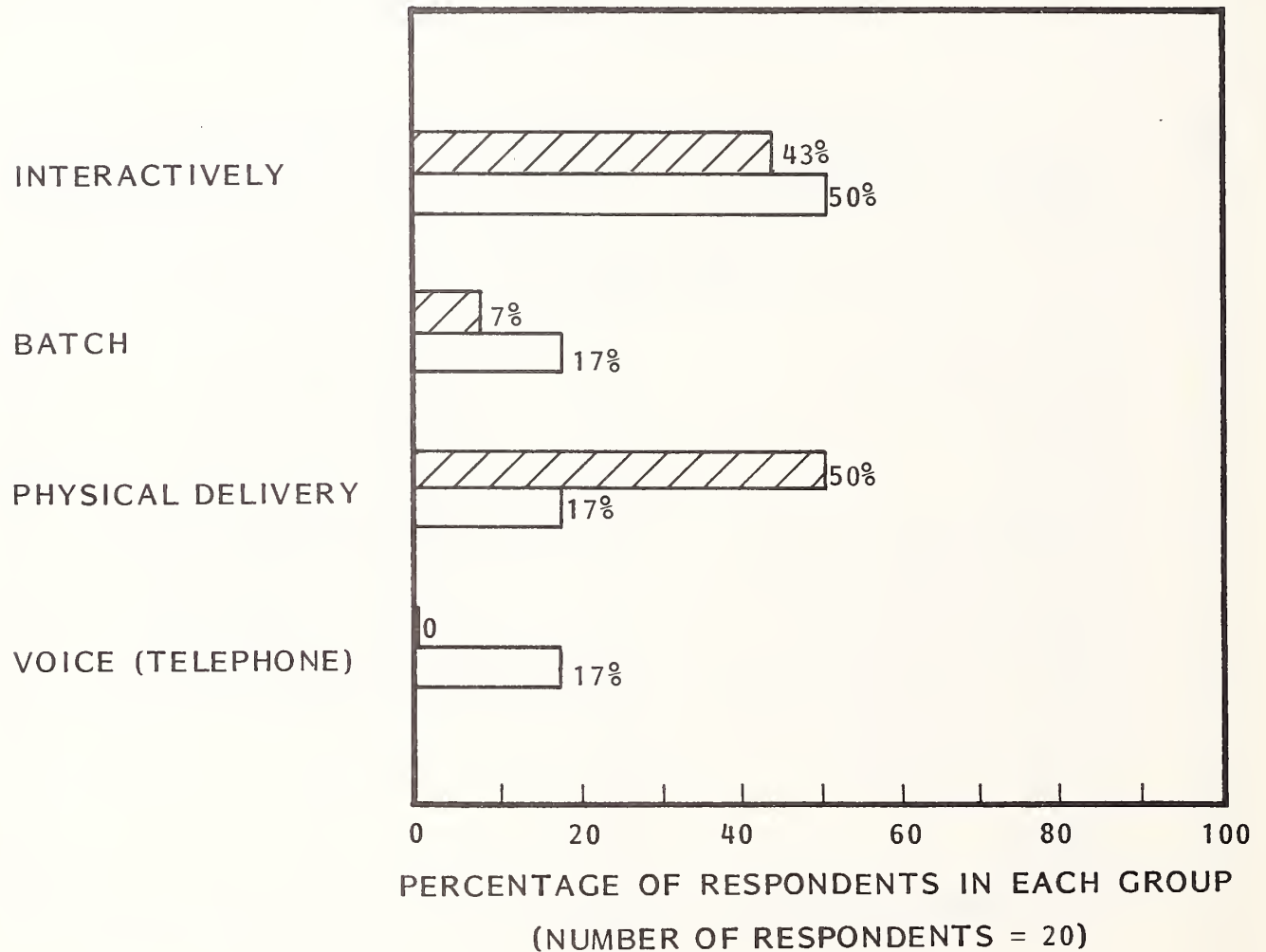
EXHIBIT IV-13

WHOLESALE NON-DURABLE GOODS INDUSTRY  
APPLICATIONS IMPLEMENTED BY RESPONDENTS USING  
COMPUTER SERVICE ORGANIZATIONS

| BRANCHES<br>(APPLICATIONS RUN AT<br>CORPORATE HEADQUARTERS)  | INDEPENDENTS<br>(APPLICATIONS RUN BY OUTSIDE<br>COMPUTER SERVICE VENDORS)  |
|--|--|
| ORDER ENTRY<br>SALES ANALYSIS<br>PAYROLL<br>BILLING<br>ACCOUNTS RECEIVABLE<br>ACCOUNTS PAYABLE<br>INVENTORY CONTROL<br>CREDIT AUTHORIZATION<br>GENERAL LEDGER<br>ORDER ANALYSIS<br>SHIPPING<br>STOCK REPLENISHMENT | ORDER ENTRY<br>SALES ANALYSIS<br>PAYROLL<br>BILLING<br>ACCOUNTS RECEIVABLE<br>ACCOUNTS PAYABLE<br>INVENTORY CONTROL<br>PURCHASING ANALYSIS |

EXHIBIT IV-14

WHOLESALE NON-DURABLE GOODS INDUSTRY  
HOW DO YOU TRANSMIT DATA BETWEEN YOUR  
LOCATION AND THE LOCATION OF YOUR COMPUTER SERVICE?



☒ BRANCH  
☐ INDEPENDENT

company truck, messenger, or outside means, such as U.S. mail or private courier and is sufficient for their needs.

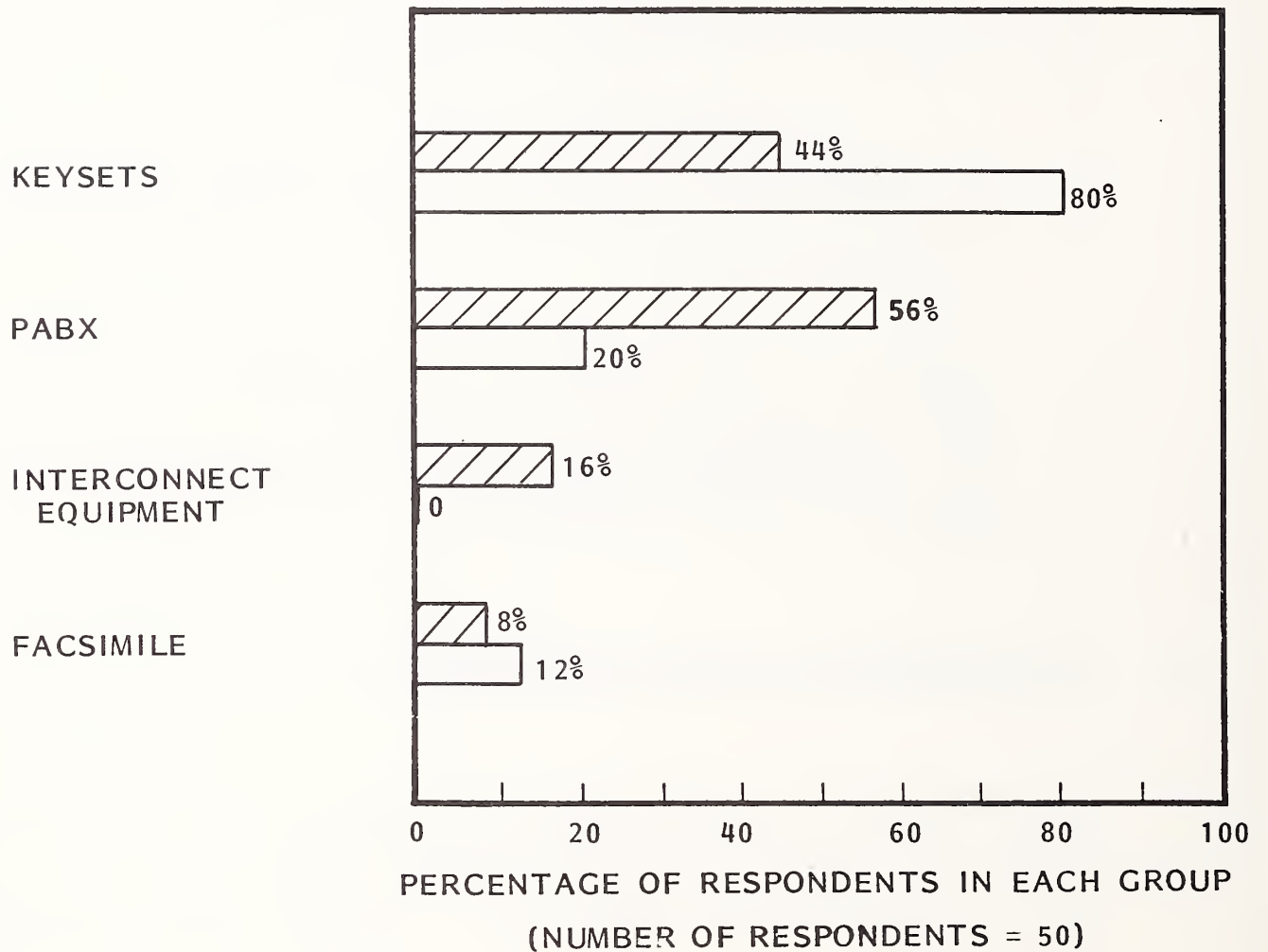
- The respondents, in general, report minor useage of batch terminals and telephone for data delivery.
- As hardware costs drop, and as services vendors begin selling both interactive and batch terminals, the large percentage of branches that rely on physical delivery constitute a viable market for the equipment.
- Most of the branches obtain their computing service from the parent company, and so the selling job becomes easier because the branches may be centrally sold.
- Chapter VI of this report discusses the purchasing process from the corporate viewpoint for computer equipment and services. In the wholesale non-durable goods industry most purchasing is strongly controlled by corporate headquarters.

## **B. COMMUNICATIONS EQUIPMENT AND SERVICE**

- In Exhibit IV-15, the use of communications equipment for the wholesale non-durable goods small (under 500 employees) establishments is depicted. The details within this picture show trends by establishment size and organizational structure.
- On an overall basis, keysets are used by 44% of the branches and 80% of the independent establishments.
- One-hundred percent of both types of small (1-19 employees) establishment respondents use keysets.

EXHIBIT IV-15

WHOLESALE NON-DURABLE GOODS INDUSTRY  
COMMUNICATIONS EQUIPMENT USAGE



 BRANCH  
 INDEPENDENT

- Within the branches, as size increases, the use of PABXs increases up to the 90% level at large (100-499 employees) branches.
- The use of PABXs also increases as the size of the independent establishment increases, but such use never becomes dominant. In the large (100-499 employees) independent establishments, the split is 56:44% in favor of keysets.
- The demarcation line between the use of keysets and PABXs is not very clear. There is a wide range of overlap.
  - The overlap in the use of keysets versus PABXs in the branches is less than with the independents, implying some degree of planning in deciding which to use or when to change (Exhibit IV-16).
  - No guidelines, however, can be derived for use as a sales aid to this industry.
- When asked why they use the communications equipment that they have, the small and medium size establishments (1-19 employees and 20-99 employees) felt they had no choice for equipment and service.
  - Some medium size (20-99 employees) and several large size (100-499 employees) branches have found that there are equipment choices available. Thirty percent of the larger branches use telephone equipment supplied by an interconnect company. Overall, 16% of the branches use interconnect equipment.
  - One branch wanted to buy a Bell Telephone PABX, but claims that the telephone company wouldn't sell it to him so he bought another system.
- Facsimile equipment is used by few respondents irrespective of their organizational structure.

## EXHIBIT IV-16

WHOLESALE NON-DURABLE GOODS  
RESPONDENTS' RANGE OF VOICE COMMUNICATIONS  
SERVICE LINES BY TYPE OF SWITCHING EQUIPMENT

| ORGANIZATIONAL<br>STRUCTURE | TELEPHONE<br>SWITCHING<br>EQUIPMENT | VOICE SERVICE LINES                      |   |
|-----------------------------|-------------------------------------|--|---|
|                             |                                     | NUMBER OF<br>OUTSIDE<br>LINES<br>(RANGE) | NUMBER OF<br>INSIDE<br>LINES<br>(RANGE) |
| BRANCH                      | KEYSET                              | 2-5                                      | 3-20                                    |
|                             | PABX                                | 3-20                                     | 10-70                                   |
| INDEPENDENT                 | KEYSET                              | 2-8                                      | 2-70                                    |
|                             | PABX                                | 2-12                                     | 25-65                                   |

NOTE: OUTSIDE LINES REFERS TO THE UNIQUE LINES FROM THE ESTABLISHMENT TO THE TELEPHONE COMPANY. THIS IS USUALLY EQUIVALENT TO THE NUMBER OF UNIQUE TELEPHONE NUMBERS AT THAT ESTABLISHMENT.

INSIDE LINES REFERS TO THE NUMBER OF LINES WITHIN THE ESTABLISHMENT. THIS IS USUALLY EQUIVALENT TO THE NUMBER OF PHYSICAL TELEPHONES.

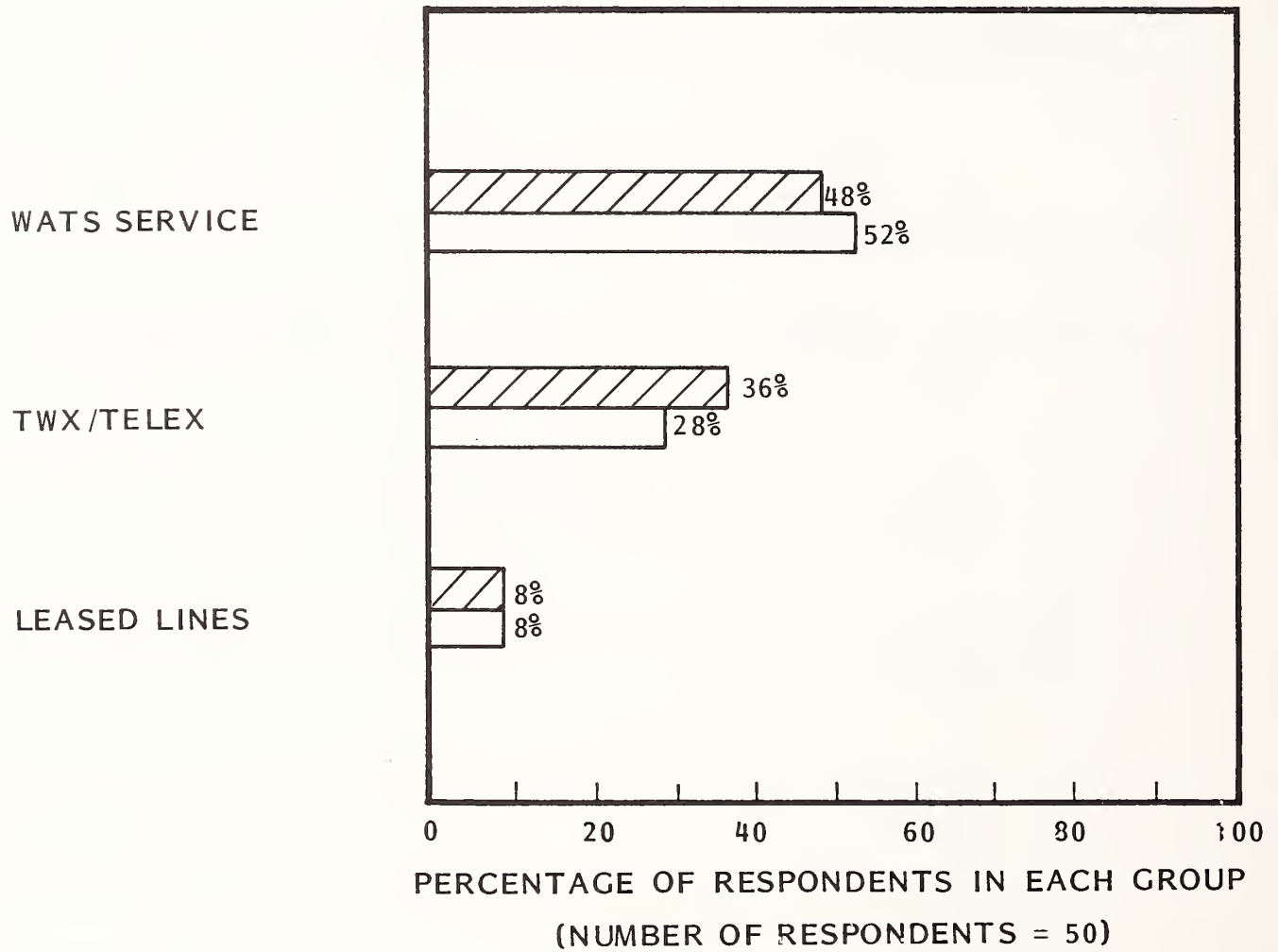
- None of the smallest (1-19 employees) size establishments were found to use any facsimile equipment.
- The branches use facsimile equipment and service for transferring information among the branches and also between the branches and the home office.
- Roughly half of the respondents use WATS services.
  - This usage increases as the establishment size increases. In the large size establishments (100-499 employees), 78% of the independents and 70% of the branches use the service.
  - Most establishments have two WATS lines, but the range is from one to twenty.
  - Many establishments have some IN-WATS and some OUT-WATS, but there is no trend: it varies by industry.
- Roughly 33% of the respondents use TWX or Telex services (Exhibit IV-17) and very few use leased lines.
  - The general belief that large companies have their own leased networks doesn't seem to be true. Branches use leased lines no more than independents. WATS service is the preferred cost-cutting long distance service now in predominant use among the respondents.

### C. OFFICE EQUIPMENT USAGE

- Typewriters are the primary office tool used by the small establishment (1-19 employees) portion of the wholesale non-durable goods industry.

EXHIBIT IV-17

WHOLESALE NON-DURABLE GOODS INDUSTRY  
COMMUNICATIONS SERVICES USED BY RESPONDENTS



 BRANCH  
 INDEPENDENT

- Most establishments have several typewriters, but the usage level is low. Thirty-five pages per day on three typewriters is a typical load.
- Electronic typewriters or memory typewriters are used by some branches, but no utilization levels were reported by the respondents.
- Among the independent respondents, 4% used standalone word processors for statistical reports, accounting reports, and procedure manuals (Exhibit IV-18).
- Print shop and duplicating equipment were also found among the respondents.
- The low level of typewriter use carries over onto the copiers. The highest utilization among the respondents, that the survey uncovered, was 1,250 copies/day, and that was on three machines.
- There are some exceptions. One wholesaler has three copiers plus a print shop, but doesn't think he can justify a word processor now or within five years. This large grocery wholesaler also has the largest computer system found among the independents - an IBM 370/138 with 15 display stations attached.
- The average use per copying machine was about 100 pages/day at the branches, and about 50 pages/day among the independents.

EXHIBIT IV-18

WHOLESALE NON-DURABLE GOODS INDUSTRY  
OFFICE EQUIPMENT USED BY RESPONDENTS

| TYPE OF EQUIPMENT             | INDEPENDENT<br>ESTABLISHMENTS<br>(%) | BRANCHES OF<br>LARGE<br>CORPORATIONS<br>(%) |
|-------------------------------|--------------------------------------|---|
| ELECTRONIC TYPEWRITERS        | -                                    | 8%  |
| STANDALONE WORD<br>PROCESSORS | 4%                                   | -   |
| COATED PAPER COPIERS          | 36                                   | 40  |
| PLAIN PAPER COPIERS           | 64                                   | 60  |
| DUPLICATING EQUIPMENT         | 4                                    | -   |
| PRINT SHOP                    | 4                                    | -   |

(NUMBER OF RESPONDENTS = 50)

## V EQUIPMENT AND SERVICES MARKETS



## V EQUIPMENT AND SERVICES MARKETS

### A. MARKET SIZE

- INPUT estimates that in 1978, all small establishments in the wholesale non-durable goods industry spent \$1.1 billion for information processing equipment and services.
  - \$285 million was spent for EDP equipment, services, and supplies.
  - \$242 million was spent for office equipment.
  - \$609 million was spent for communications equipment and services.
- The analysis by industry within the wholesale non-durable goods industry, shown in Exhibit V-1, pinpoints groceries and related products (SIC 514) to have the biggest portion of estimated expenditures for equipment and services, but it is only slightly more than 25% of the total.
  - Groceries and related products has one of the lowest expenditures per employee of all of the included industries, but because of the large number of employees, the estimates for their expenditures are the highest.

EXHIBIT V-1

WHOLESALE NON-DURABLE GOODS - 1978 ESTIMATED EXPENDITURES BY SMALL ESTABLISHMENTS  
FOR INFORMATION PROCESSING EQUIPMENT AND SERVICES

| SIC | INDUSTRY                            | ESTIMATED EXPENDITURES                     |                        |   |          | TOTAL (\$M) | PERCENT |
|-----|-------------------------------------|--|------------------------|---|----------|-------------|---------|
|     |                                     | EDP EQUIPMENT, SERVICES AND SUPPLIES (\$M) | OFFICE EQUIPMENT (\$M) | COMMUNICATIONS EQUIPMENT AND SERVICES (\$M) |          |             |         |
| 511 | PAPER AND PAPER PRODUCTS            | \$ 17                                      | \$ 14                  | \$ 67                                       | \$ 36    | 6%          |         |
| 512 | DRUGS AND SUNDRIES                  | 19   | 16                     | 40  | 75       | 7           |         |
| 513 | APPAREL, PIECE GOODS AND NOTIONS    | 26   | 22                     | 55  | 103      | 9           |         |
| 514 | GROCERIES AND RELATED PRODUCTS      | 77   | 65                     | 164   | 306      | 26          |         |
| 515 | FARM PRODUCT RAW MATERIALS          | 19   | 16                     | 40  | 75       | 7           |         |
| 516 | CHEMICALS AND ALLIED PRODUCTS       | 22   | 19                     | 47  | 88       | 8           |         |
| 517 | PETROLEUM AND PETROLEUM PRODUCTS    | 37   | 32                     | 80  | 149      | 13          |         |
| 518 | BEER, WINE, AND DISTILLED BEVERAGES | 22   | 19                     | 48  | 89       | 8           |         |
| 519 | MISCELLANEOUS GOODS                 | 46   | 39                     | 99  | 184      | 16          |         |
| 51  | TOTAL- WHOLESALE NON-DURABLE GOODS  | \$ 285                                     | \$ 242                 | \$ 609                                      | \$ 1,136 | 100%        |         |

- The total small establishment expenditures were derived from the expenditures per employee for the EDP, Office and Communications sectors that are presented in the SES 1979 Annual Report.
  - The expenditures per employee for each industry within the wholesale non-durable goods industry were derived from the estimated operating expenses, less payroll, for each of those industries (Exhibit V-2).
  - These industry expenditures per employee were then multiplied by the number of small establishment employees to get an estimate of the expenditures in that industry.
- EDP budgets, as a percentage of sales in the wholesale industry, has been reported in INPUT's 1979 User Annual Report to be 0.8% for establishments of under \$100 million in sales in 1978.
  - This figure of 0.8% is for the total EDP budget, including payroll and fringe benefits.
  - The same INPUT study reports that 39% of the EDP budget in the wholesale industry is for personnel expenses.
  - Using this information, it can be deduced that 0.49% of sales is the EDP budget when the personnel costs are excluded for wholesale establishments of under \$100 million in sales.
  - Since the percentage of sales that is spent for EDP rises as the total sales declines, and since the establishments in this study have sales that are under \$50 million, a percentage of 0.55 will be used for estimating EDP budgets excluding personnel costs.
- In 1978, sales in the wholesale non-durable goods industry were \$342 billion.

# EXHIBIT V-2

## WHOLESALE NON-DURABLE GOODS INDUSTRY - 1978 ESTIMATED EXPENDITURES PER EMPLOYEE BY SMALL ESTABLISHMENTS FOR INFORMATION PROCESSING EQUIPMENT AND SERVICES

| SIC | INDUSTRY                            | ESTIMATED EXPENDITURES PER EMPLOYEE        |                        |  |       | TOTAL (\$M) |
|-----|-------------------------------------|--|------------------------|--|-------|-------------|
|     |                                     | EDP EQUIPMENT, SERVICES AND SUPPLIES (\$M) | OFFICE EQUIPMENT (\$M) | COMMUNI-CATIONS EQUIPMENT AND SERVICES (\$M) |       |             |
| 511 | PAPER AND PAPER PRODUCTS            | \$123                                      | \$105                  | \$264  | \$492 |             |
| 512 | DRUGS AND SUNDRIES                  | 225  | 191                    | 480  | 896   |             |
| 513 | APPAREL, PIECE GOODS AND NOTIONS    | 208  | 177                    | 444  | 829   |             |
| 514 | GROCERIES AND RELATED PRODUCTS      | 139  | 118                    | 296  | 553   |             |
| 515 | FARM-PRODUCT RAW MATERIALS          | 149  | 127                    | 319  | 595   |             |
| 516 | CHEMICALS AND ALLIED PRODUCTS       | 269  | 228                    | 573  | 1,070 |             |
| 517 | PETROLEUM AND PETRO-LEUM PRODUCTS   | 204  | 173                    | 434  | 811   |             |
| 518 | BEER, WINE, AND DISTILLED BEVERAGES | 193  | 164                    | 413  | 770   |             |
| 519 | MISCELLANEOUS GOODS                 | 134  | 114                    | 286  | 534   |             |
| 51  | TOTAL- WHOLESALE NON-DURABLE GOODS  | \$163                                      | \$138                  | \$348  | \$649 |             |

NOTE: THESE EXPENDITURES ARE TO OUTSIDE VENDORS ONLY AND DO NOT INCLUDE SALARIES OR FRINGE BENEFITS TO EDP, OFFICE OR COMMUNICATIONS EMPLOYEES

- About 96% or \$328 billion was contributed by the small establishments (under 500 employees).
- Assuming these small establishments can comfortably afford to spend 0.55% of their sales for EDP equipment, services, and supplies, then the market potential is \$1.8 billion.
  - The penetration level is 16% - \$285 million spent in 1978 divided by the 1978 potential of \$1.8 billion.
- If the expenditures for information processing equipment and services grow no faster than the wholesale industry in general (10% per year) then the expenditures in 1983 will be:
  - \$1.8 billion - total.
  - \$460 million - EDP equipment, services, and supplies.
  - \$390 million - office equipment automation.
  - \$980 million - communications equipment and services.
- This is a conservative growth rate. It is more likely that the segments will each grow at separate rates closer to the information processing industry growth from 1977 to 1978 as reported in the 1979 SES Annual Report.
 

|   |     |
|---|-----|
| - Computer equipment and services       | 28% |
| - Communications equipment and services | 14% |
| - Office automation                     | 18% |
- If these growth rates are used for the wholesale non-durable goods industry, then the expenditures during 1983 will be:

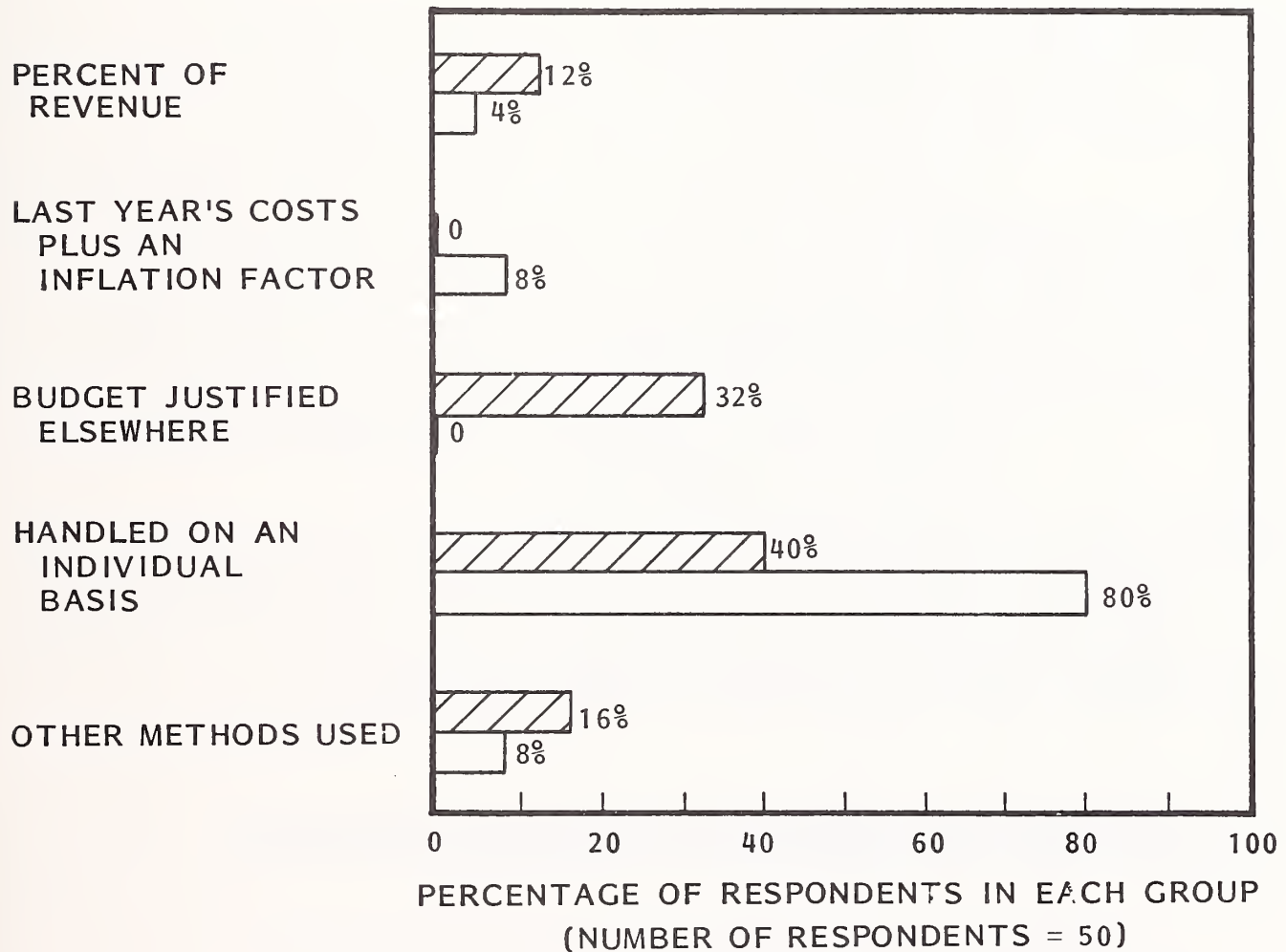
- Computer equipment, services, and supplies \$ 980 million
  - Office automation \$ 555 million
  - Communications equipment and services \$1,175 million
  - Estimated total expenditures for information processing equipment and services \$ 2.7 billion
- The penetration level for computer equipment, services, and supplies will then increase to about 33%, assuming the EDP budget figure as a percentage of sales remains at 0.55%.

## B. BASIS FOR BUDGETING

- About one-third of the branches have their budgets for information processing equipment and services prepared and justified by the parent company. This tendency decreases as branch size increases.
- The large majority of the independent establishments and 40% of the branch establishments treat information processing equipment as a non-budgeted capital expense and handle each item individually as necessary (Exhibit V-3).
  - This allows maximum flexibility as needs arise, provided some bulk funds are set aside to cover anticipated needs and emergencies.
  - Selling into this environment is easier than waiting for a budget cycle to come around. However, if large outlays are required, the expense must be anticipated so the capital expense fund can cover the purchase.

# EXHIBIT V-3

## WHOLESALE NON-DURABLE GOODS INDUSTRY METHODS USED BY RESPONDENTS TO BUDGET FOR INFORMATION PROCESSING EQUIPMENT AND SERVICES



 BRANCH  
 INDEPENDENT

- Bankrupting the capital budget for a particular item antagonizes those who have other projects planned and may delay the success of the computer system installation.
- The other budgeting methods used by respondents allow for less flexibility and frequently require the juggling of priorities in order to acquire equipment costing comparatively large sums of money.
- The "other" category includes:
  - . Average replacement costs modified by a factor determined by need.
  - . Monies budgeted, based upon long-term forecasting techniques.
  - . Modifications of the techniques that respondents felt were really not listed on the questionnaire.
- No matter which method is used by an individual establishment, successful selling requires that the salesperson determine the method early in the selling cycle and time the sales campaign to fit the budgeting cycle.

## C. POTENTIAL USE OF INFORMATION PROCESSING EQUIPMENT

### I. COMPUTERS

- Everyone is familiar with the Universal Product Code (UPC) that appears on almost all items sold in the supermarket. The code appears on goods in two forms:
  - A human readable number form.

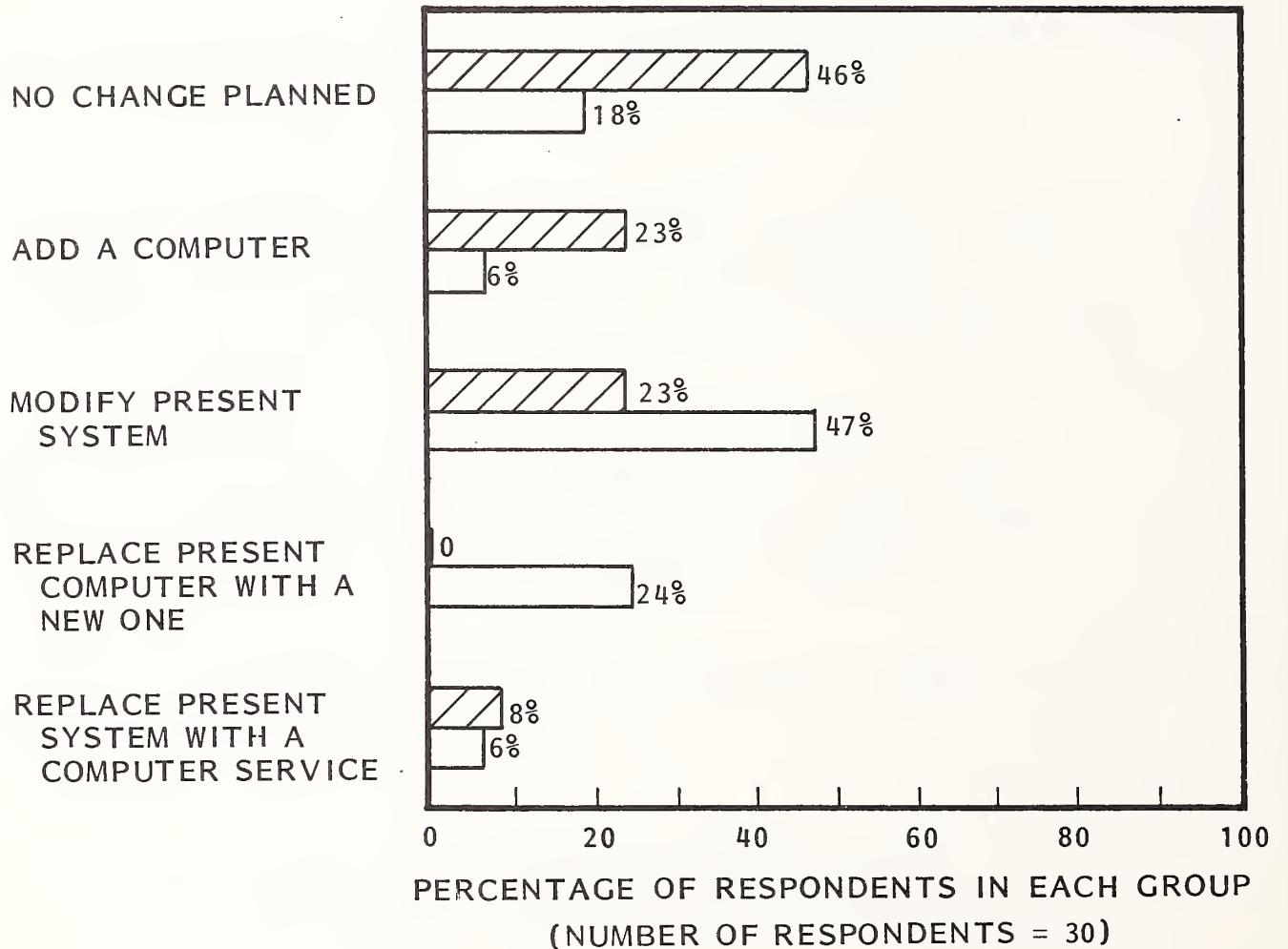
- A machine readable number form.
- The UPC code is part of a standardized numbering system being developed by Distribution Codes, Inc., of Alexandria, Virginia. DCI is owned by the National Association of Wholesale Distributors and the numbering system is sponsored by the 93 trade associations belonging to the NAWD.
  - The numbering system adopted has two parts: the first six digits are used to identify the manufacturer or producer, and the last five digits are used to designate a specific item produced by that manufacturer.
- In order to avoid duplications or multiple numbers for a single manufacturer, the function of assigning the six digits "Vendor Number" has been given to DCI. The five digit product code will be given to each product by its manufacturer, if he is cooperative, if not, the associated trade association will assign the numbers.
- There are several points that must be remembered about these numbering systems:
  - The driving force behind these systems are the wholesalers and retailers.
  - Any cooperation by the manufacturers is purely voluntary.
  - At this point only the UPC is used in machine readable form.
  - There are several numbering systems in use in various industries, such as UPC for groceries, that are now part of the larger effort to establish a single system. These other codes have been modified so that they are subsets of the distribution code.

- Vendors of information processing equipment, software, and services who are selling, or are planning to sell, to either the entire wholesale industry or just part of it should:
  - Make sure that all software packages can handle the 11 digit numeric distribution code.
  - Provide the devices or for the attachment of devices that can read a bar code of the UPC style in a warehouse situation from various types of containers.
  - Maintain a computer file of all assigned "Vendor Numbers" and then provide as a service to each new wholesaling customer, a machine readable subset focused on the particular vendors the wholesaler uses. This would give the wholesaler incentive to develop an integrated system for all of his applications.
  - Keep abreast of the activity in this area. Vendors might work closely with the various associations to develop model systems.
- Additional information will be found in Appendix C. In order to keep up with the latest developments contact:
  - Mr. Robert G. Clifton  
 Secretary, Modern Methods Committee  
 1900 Arch Street  
 Philadelphia, PA 19103  
 (215) 564-3484
- As mentioned earlier (Chapter IV), much of the planned activity during the next five years will take place in the independent establishments.

- Sales analysis, inventory control, and receiving will be the applications getting the most attention, as shown in Exhibit IV-11. These applications blend well with the distribution code system.
- In order to implement these new applications, 47% of the independents that currently have systems will be making modifications to the systems during the next two years.
  - These modifications usually involve adding memory, disk capacity, or some terminals.
- In addition, 24% of the independents plan to replace their current system with a new one because the business has grown, and their new applications will require a larger system. Six percent plan to add another computer (Exhibit V-4).
  - Together, 77% of the independent wholesale non-durable goods small establishments will be spending money for computer hardware and software during the next two years.
- The branches are not planning to be that active, as indicated in Chapter IV, where their planned implementation of new applications was less than that of the independents.
  - Almost one-half (46%) of the branches which currently have their own systems are not planning any changes during the next two years.
  - A combined 46% will be making some changes: 23% will be adding another system and 23% will modify their present system during the coming two years.
- While a small percentage of each group will give up their own system and start using a computer service, a slightly greater number are planning to do just the opposite:

# EXHIBIT V-4

## WHOLESALE NON-DURABLE GOODS INDUSTRY RESPONDENTS' PLANS TO CHANGE OR MODIFY CURRENT COMPUTER SYSTEM DURING THE NEXT TWO YEARS

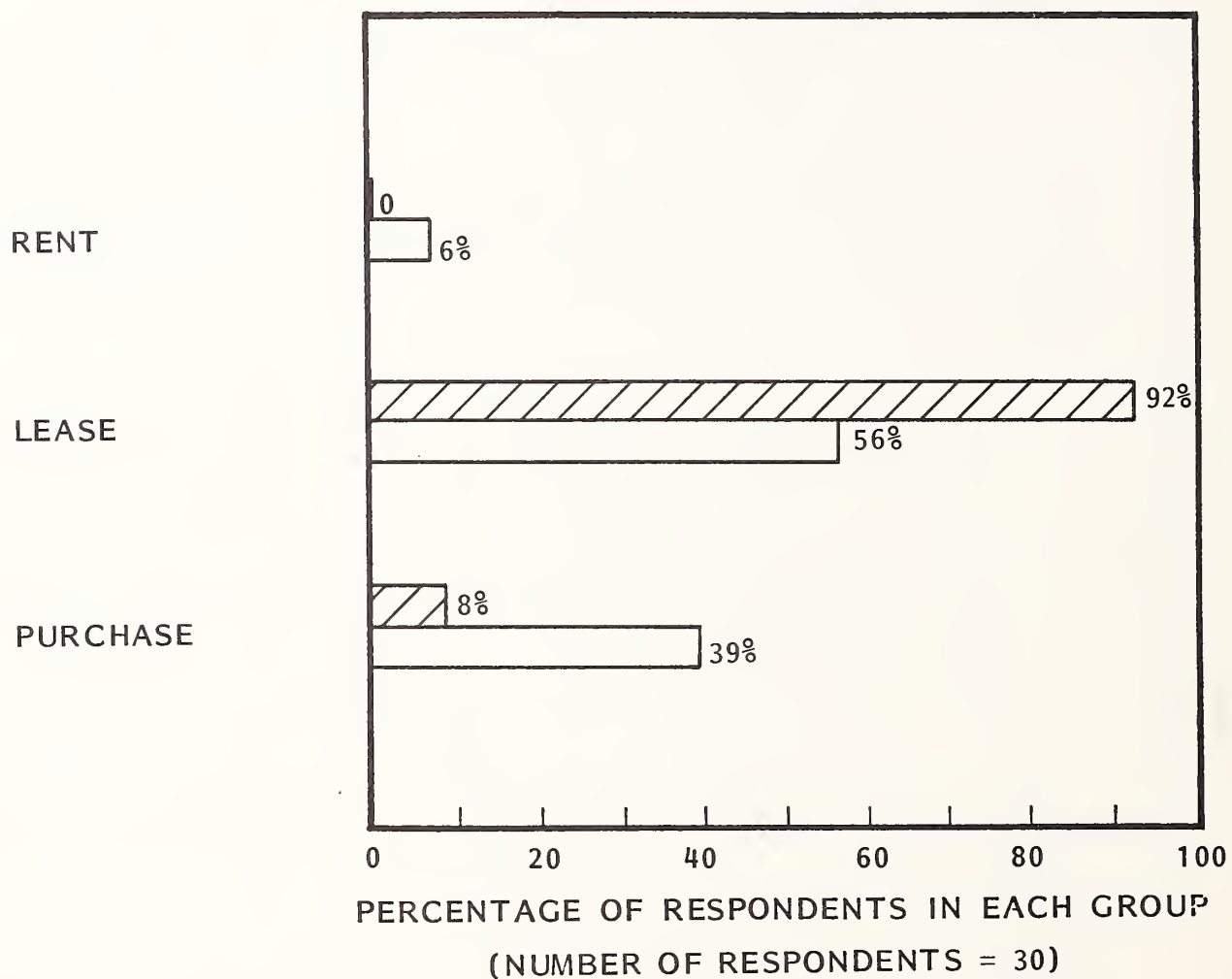


☒ BRANCH  
☐ INDEPENDENT

- Move some applications from a computer service to newly acquired hardware.
  - All of the respondents who used a computer service, either at corporate headquarters or from an outside supplier, had payroll prepared by the service.
  - Those respondents that planned to bring in their own hardware for some applications said that payroll would remain with the service.
- Most of the respondents prefer to lease their equipment when they acquire it. There are some differences between the branches and independent establishments, as shown in Exhibit V-5, but still a majority of each group prefers leasing.
    - The branches overwhelmingly lease (92%), while only 56% of the independents studied prefer leasing.
    - The independent establishments have strong tendencies to purchase their equipment (39%) and feel that as equipment costs decline, they will be inclined to purchase more of their equipment.
  - As the independent establishments increase in size from 1-19 employees toward 100-499 employees, there is an increasing tendency to lease rather than purchase.
  - When the small establishments go to the marketplace to choose a computer, the branches and the independents will be looking for the same factors in making the choice.
    - The branches will look for prompt delivery, support from the manufacturer, and an overall good vendor reputation to ensure a satisfactory installation (Exhibit V-6).

EXHIBIT V-5

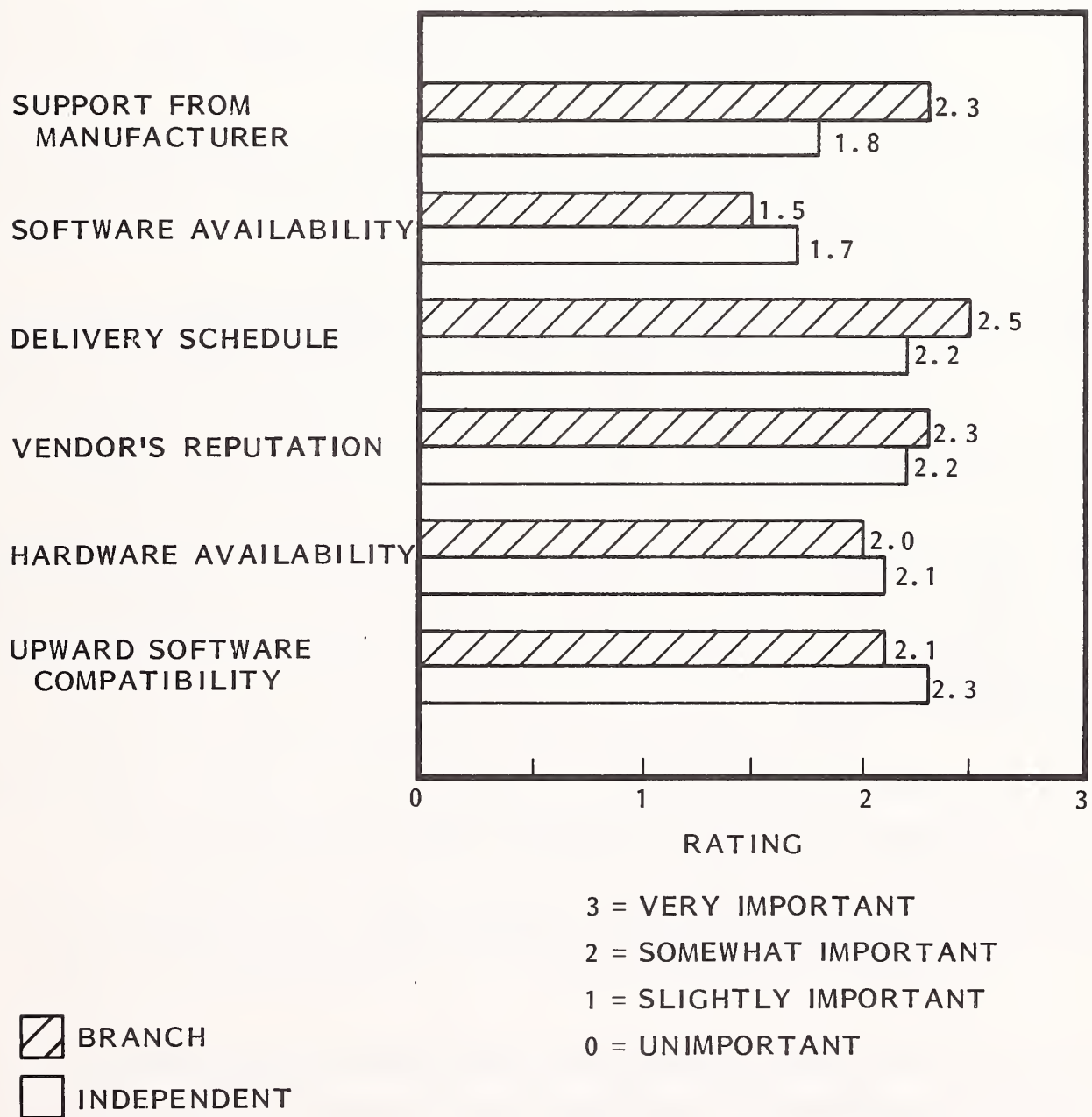
WHOLESALE NON-DURABLE GOODS INDUSTRY  
HOW DO YOU PREFER TO  
PAY FOR YOUR COMPUTER EQUIPMENT?



☒ BRANCH  
☐ INDEPENDENT

EXHIBIT V-6

WHOLESALE NON-DURABLE GOODS INDUSTRY  
RESPONDENTS' RATING OF IMPORTANT FACTORS  
IN CHOOSING A COMPUTER SYSTEM



- The independents will be emphasizing software compatibility along with prompt delivery in making their choice. Again, the reputation of the vendor is important because it is the best insurance the small establishment purchaser has for guaranteeing that the other factors making a superior installation will be maximized.
- There are differences in the ratings of important factors by the size of the independent establishments.
  - The small independents (1-19 employees) emphasize support from the manufacturer and software packages.
  - The medium size independents (20-99 employees) require software compatibility.
  - The larger independent establishments (100-499 employees) stress the reputation of the vendor as the most important factor in their choice, and the availability of the appropriate hardware as the second most important factor.
- There are significant differences in the ratings of branch establishments, and these are very different from the directions of the independents. These differences may stem from the branches' experience with the corporate computer center.
  - The small branches (1-19 employees) will depend heavily on the reputation of the vendor when making their computer decision.
  - The medium size branch establishments (20-99 employees) feel that delivery schedule and adherence to it are most important for them.
  - The larger branches (100-499 employees) will look for support from the manufacturer in the software area as the prime factor, and secondarily for a vendor's overall reputation.

## 2. COMMUNICATIONS

- There is a reasonable amount of awareness on the part of the small establishments of communications alternatives. The larger independents (100-499 employees) along with the medium (20-99 employees), and large (100-499 employees) branches expressed interest in "private company telephone equipment."
  - The smaller size establishments (1-19 employees) feel secure in having the equipment and service coming from a single source.
- The branches, in general, expressed more interest in acquiring equipment during the coming two years than the independents.
  - The independents are in the exploratory stage. Several felt that they might have difficulty justifying the changeover on a purely financial basis.
- Little interest was shown in expanding or acquiring new services such as WATS, Telex/TWX, or facsimile.

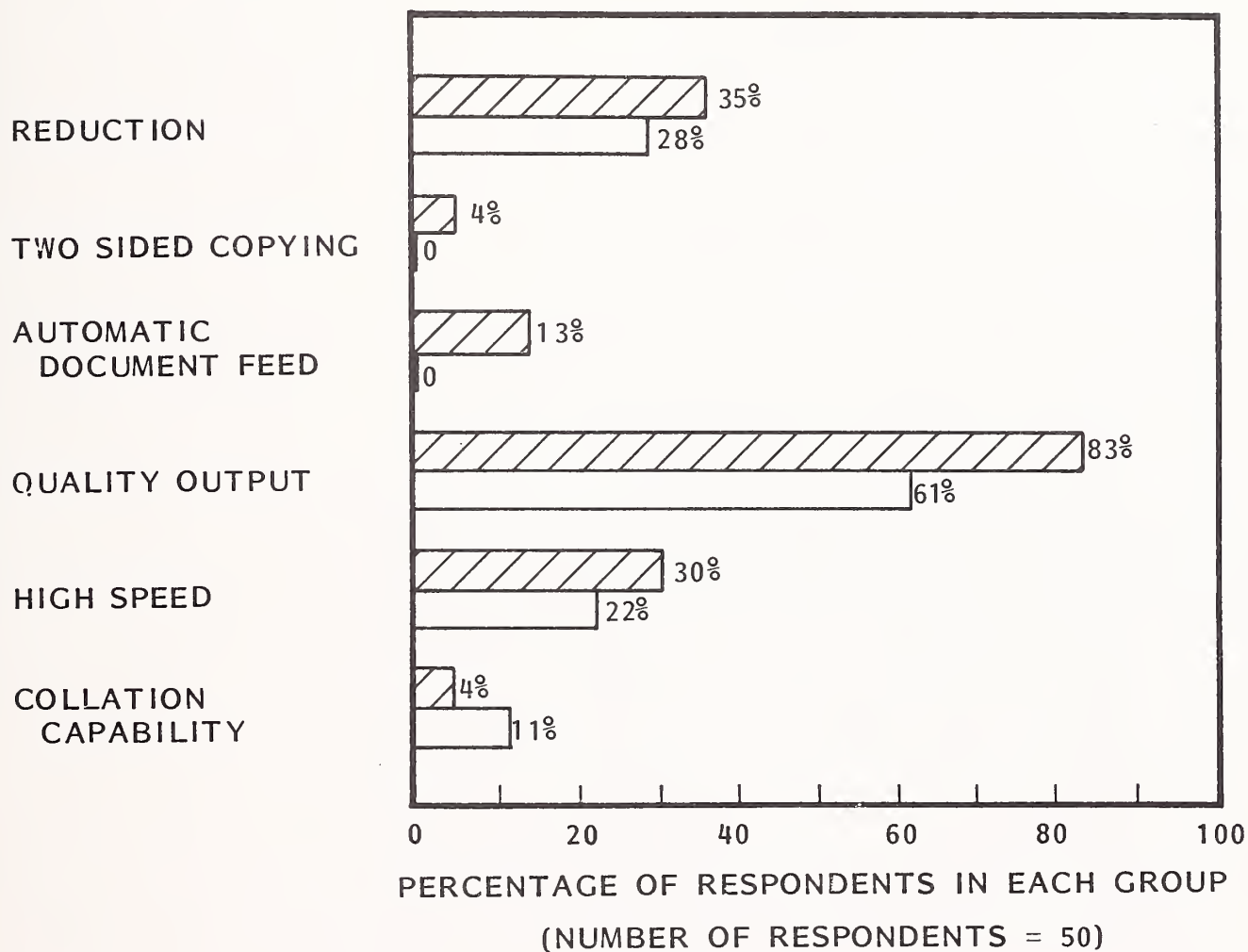
## 3. OFFICE

- As referenced in INPUT's 1979 SES Annual Report, copiers are universally used and word processing equipment use is very industry oriented.
  - The non-durable goods wholesaler is not a user of word processing equipment, as shown in the previous chapter, and purchasing plans for the next two years generally do not include much word processing equipment.
  - A typical comment was, "Everything not done by our computers is done by hand. There is very little typing done, we have no need for any other equipment."

- These same companies will be looking for typewriters and copiers during the next two years. Branches will be a little more active than the independents, but not by much.
  - When looking for copiers, most respondents will be looking at the output quality first and several other features second (Exhibit V-7).
  - Speed and reducing capability are the secondary factors that approximately 33% of the respondents requested. Since high speed and reduction are already available, the assumption is they want these features at a price small establishments feel they can afford.
- Overall, these respondents will be conservative spenders in the office area during the coming two years.

# EXHIBIT V-7

## WHOLESALE NON-DURABLE GOODS INDUSTRY COPIER FEATURES DESIRED



☒ BRANCH  
☐ INDEPENDENT

NOTE: TOTALS MAY BE GREATER THAN 100% DUE TO SELECTION OF MULTIPLE FEATURES



VI THE PURCHASING DECISION PROCESS  
IN THE WHOLESALE NON-DURABLE  
GOODS INDUSTRY



## VI THE PURCHASING DECISION PROCESS IN THE WHOLESALE NON-DURABLE GOODS INDUSTRY

### A. INTRODUCTION

- The purchase decision process varies considerably between industries, and between branches and independent establishments within the same industry.
  - In independent establishments the process is usually much simpler than in the branches. In small independent establishments, the decision making process frequently involves only one person, the owner/manager.
  - Branches, by their organizational structure, have a more involved decision making process for many information processing equipment and service purchases.
- This chapter will explore part of the purchasing process in the wholesale non-durable goods branches from the corporate point of view.
- The exhibits on the following pages delineate various aspects of the purchasing process and illustrate the role played by different parts of the organization.
- Several points become apparent as the exhibits are studied.

- The "reach" of the equipment or service helps to determine who gets involved in the decision process, and at what point in the process.
- The cost of the equipment or service aids in deciding how the authority to purchase is distributed.
- Certain companies give the branches authority over the entire process and some give the branches no authority, preferring to do everything at corporate headquarters.

## **B. THE PURCHASE DECISION PROCESS FROM THE CORPORATE POINT OF VIEW**

- As rule of thumb, as the price of an item or service increases, corporate headquarters becomes more involved in the need identification process and in the purchase decision.
  - This was true for 71% of the branch respondents.
  - Twenty-nine percent only became involved in the purchase decision and not in need identification as the price increased.
  - Twenty-nine percent claimed that increasing price had no direct bearing on their involvement in the purchasing decision process for branch equipment and/or services.
- Only 7% of the respondents claimed that corporate involvement "was limited to financial approval at the time the budget is submitted."
  - Another 7% said that corporate involvement was along functional responsibilities only.

- The majority (86% of the companies) had corporate involvement in the purchasing process for both functional responsibilities and for financial approvals.
- For most of the respondents, the \$5,000 threshold was the important one.
  - Equipment, services, and supplies which cost over \$5,000 brought the purchase order to corporate's attention. Corporate then became involved functionally and financially.
  - Frequently, items for less money required corporate functional approval.
  - One company required headquarter's financial involvement for \$200 purchases.
- Most of the employees of the companies that were interviewed about the purchasing process, worked at branch or subsidiary locations.
  - Seventy-one percent of the companies had over 95% of their employees outside of the headquarter's location.
  - Twenty-nine percent of the companies had between 90% and 95% of their employees at the branches.

## C. VARIATIONS BY TYPE OF EQUIPMENT/SERVICES PURCHASED

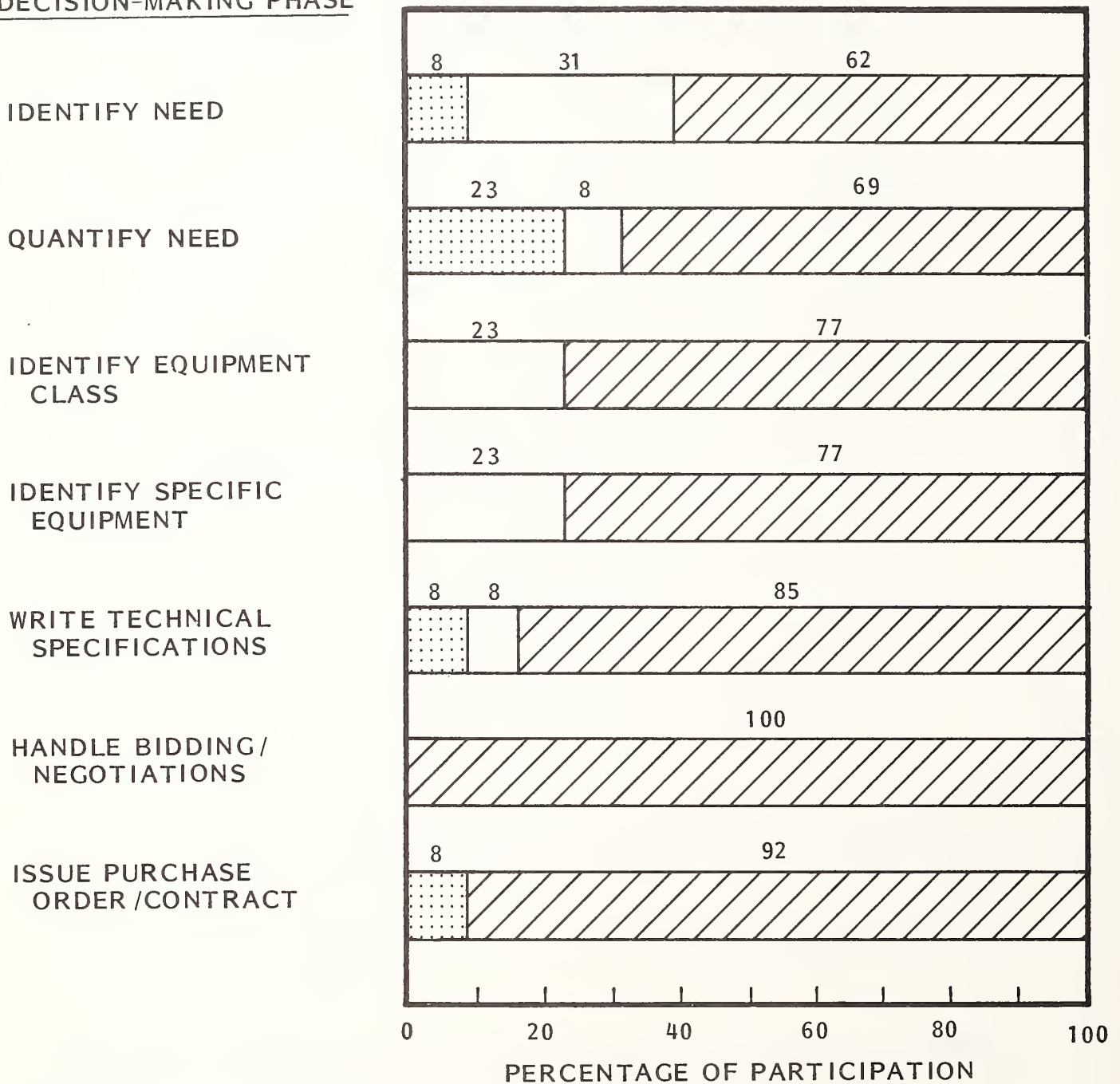
### I. COMPUTER EQUIPMENT

- In reviewing Exhibit VI-I, it appears that the branches get into the purchasing act whenever the "dirty work" has to be done.

EXHIBIT VI-1

WHOLESALE NON-DURABLE GOODS INDUSTRY  
ROLES IN PURCHASING DECISIONS -  
EDP EQUIPMENT PURCHASING  
(CORPORATE VIEWPOINT)

DECISION-MAKING PHASE



- BRANCH
- HEADQUARTERS
- BOTH

- A few branches get the opportunity to cry for "help," that is, identify their need for EDP equipment.
- The branches then become involved when:
  - . The need must be quantified.
  - . The detailed technical specifications must be written.
  - . The purchase order or contract must be issued.
- Corporate always handles the bidding and contract negotiations.
  - Corporate is also most involved in writing the technical specifications and in issuing the purchase order or contract.
- Branch/corporate activities in the EDP equipment purchase process are most often found in:
  - Need identification.
  - Equipment identification, both specific and as a class.
- The typical purchase cycle for EDP equipment is from three to six months for 43% of the respondents.
  - For 21%, it is less than three months.
  - For 14%, it is over 24 months.
- The companies that permit branches to do a large portion of the purchase process themselves, have more detailed standards for the branches to follow to ensure compatibility with corporate systems. The standards include such items as:

- File layouts.
  - Programming standards.
  - Record retention rules.
  - Performance standards.
  - Maintenance requirements.
- These must be adhered to by the branch and purchased equipment must conform to these guidelines.
  - The purchasing of computer services may follow the same pattern as that for computer equipment, but only four respondents reported using services, thus no conclusions can be drawn.
  - All four handled the purchasing of computer services very differently from each other.

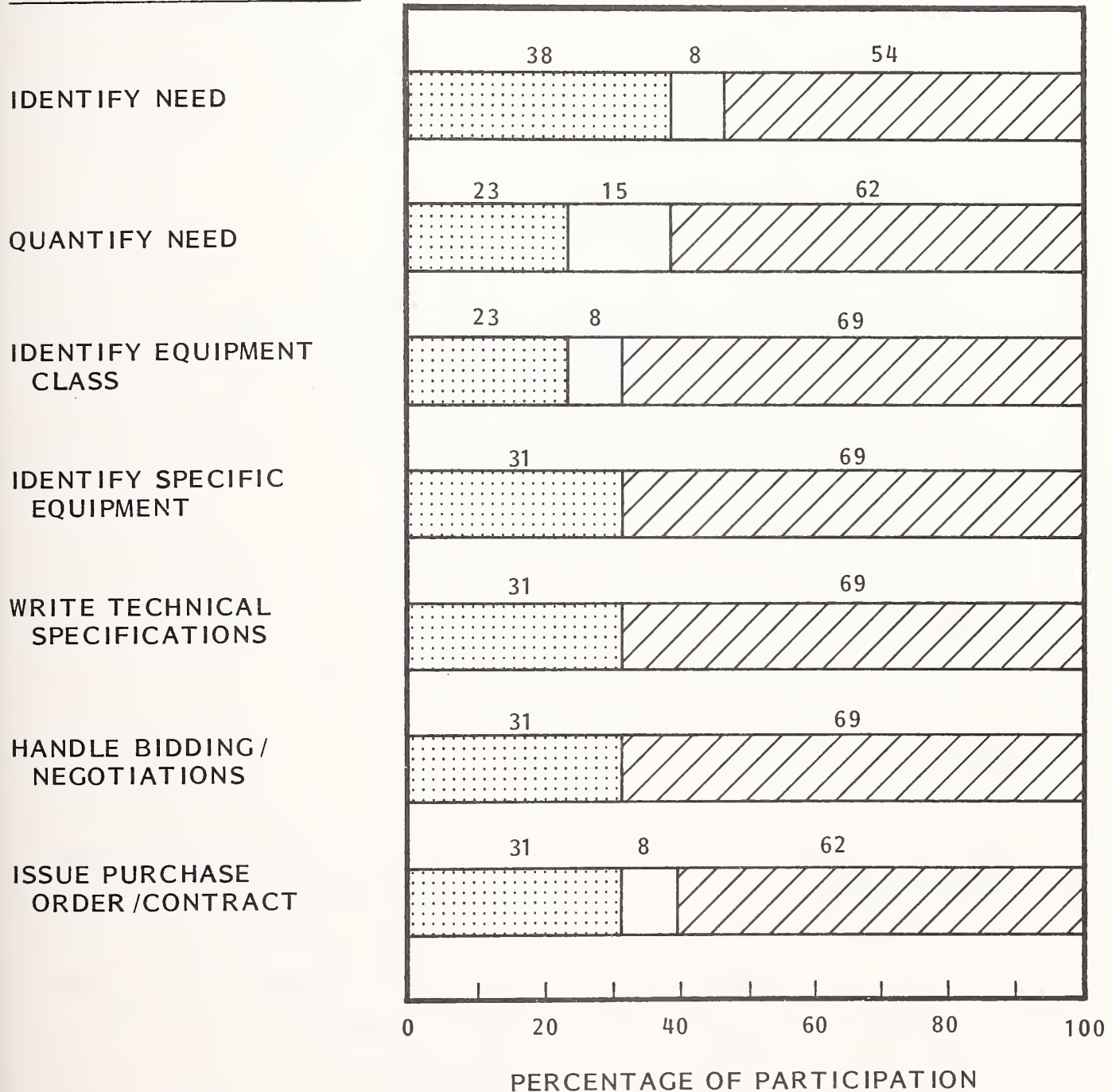
## 2. COMMUNICATIONS EQUIPMENT AND SERVICES




- There is very little joint corporate and branch purchasing activities related to communications equipment and services.
- Either the branch does it all or corporate headquarters does it all.
- In the EDP area, the corporation handles all of the purchasing functions about 80% of the time. In the communications area, it handles the entire process about 65% of the time (Exhibit VI-2).
- For the large majority of the branches, communications equipment and services is expensed and not capitalized.

# EXHIBIT VI-2

## WHOLESALE NON-DURABLE GOODS INDUSTRY ROLES IN PURCHASING DECISIONS - COMMUNICATIONS EQUIPMENT AND SERVICES PURCHASING (CORPORATE VIEWPOINT)

### DECISION-MAKING PHASE



-  BRANCH
-  HEADQUARTERS
-  BOTH

- It is, however, usually the largest overhead expense in a small wholesale company, so headquarters stays heavily involved, only slightly less than in the EDP area.
- Roughly a third of the branch respondents handle the acquisition of communications equipment and services by themselves.
  - Corporate headquarters indicate that they make no distinction at this time between equipment and services in the purchasing process. This may change as more companies consider the pros and cons of owning their own telephone equipment.
  - The increasing use and capability of interconnect equipment along with its cost may force companies to establish different purchasing paths for communications equipment and communications services. Purchasing services may remain the same, while communications equipment purchasing may become more like computer equipment purchasing than it is now.
- The typical purchase cycle for communications equipment and services is one to three months, with 64% of the respondents reporting that range.
  - Another 27% reported a cycle of three to six months.

### 3. OFFICE EQUIPMENT

- Exhibit VI-3 illustrates the thesis that the less pervasive the influence of the purchase, the less corporate headquarters is involved in the process.
  - Corporate headquarters are involved in the purchase of office equipment in less than 33% of the respondent companies.
  - In over 50% of the companies, the branches are solely involved in the purchase of office equipment.

# EXHIBIT VI-3

## WHOLESALE NON-DURABLE GOODS INDUSTRY ROLES IN PURCHASING DECISIONS - OFFICE EQUIPMENT PURCHASING (CORPORATE VIEWPOINT)

### DECISION-MAKING PHASE

IDENTIFY NEED

QUANTIFY NEED

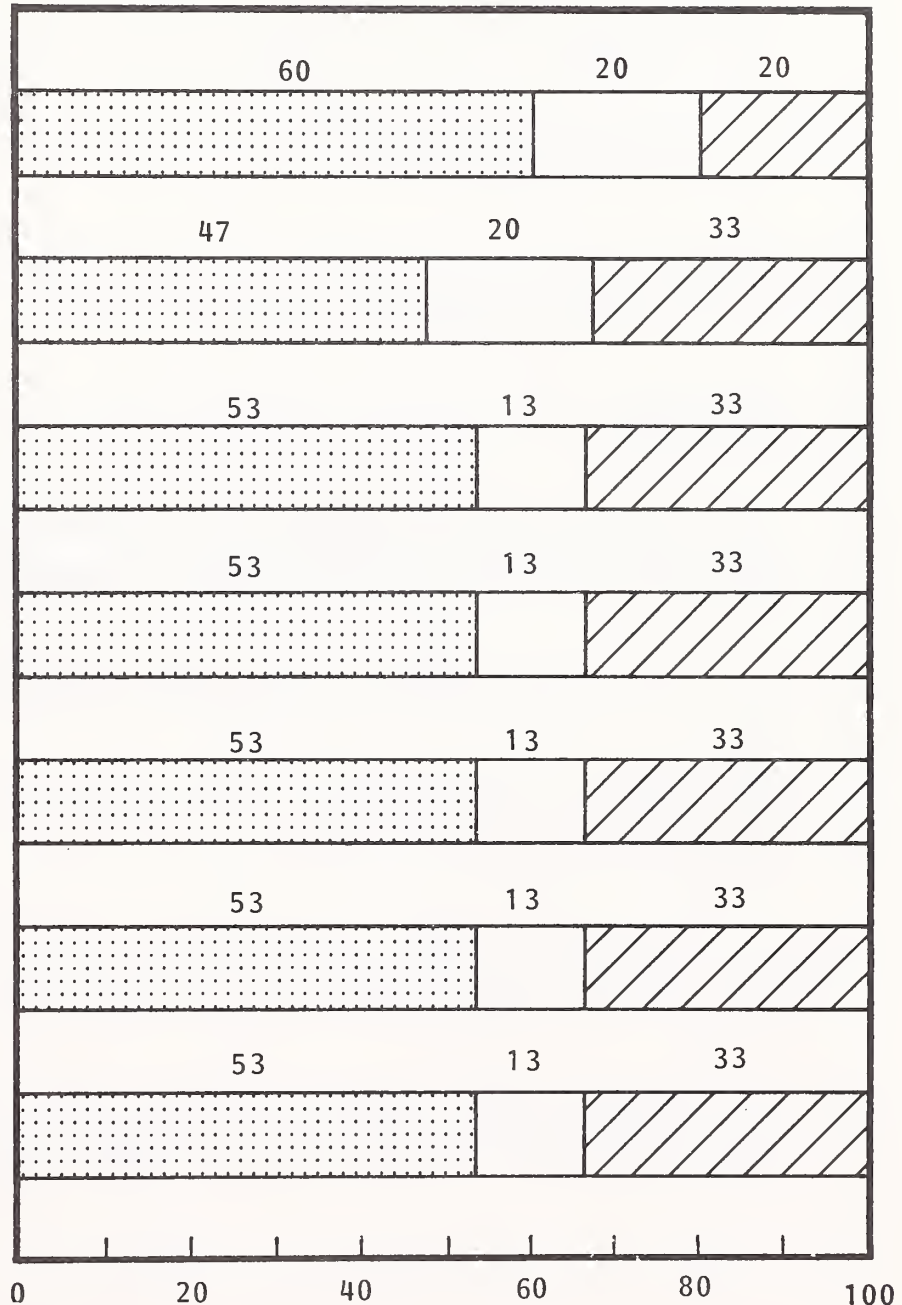
IDENTIFY EQUIPMENT  
CLASS

IDENTIFY SPECIFIC  
EQUIPMENT




WRITE TECHNICAL  
SPECIFICATIONS

HANDLE BIDDING/  
NEGOTIATIONS

ISSUE PURCHASE  
ORDER/CONTRACT



PERCENTAGE OF PARTICIPATION

-  BRANCH
-  HEADQUARTERS
-  BOTH

- This process may change as word processing equipment becomes more popular. It is comparatively expensive office equipment and will tend to be treated as computer equipment by the purchasing process.
  - This will certainly come about as word processing equipment becomes integrated with the distribution and copying functions.
- The purchasing process for office equipment is completed within three months from the time the need is identified until the purchase order is issued in 92% of the responding companies.
  - This cycle may lengthen as more expensive equipment is sought and as corporate gets more involved.

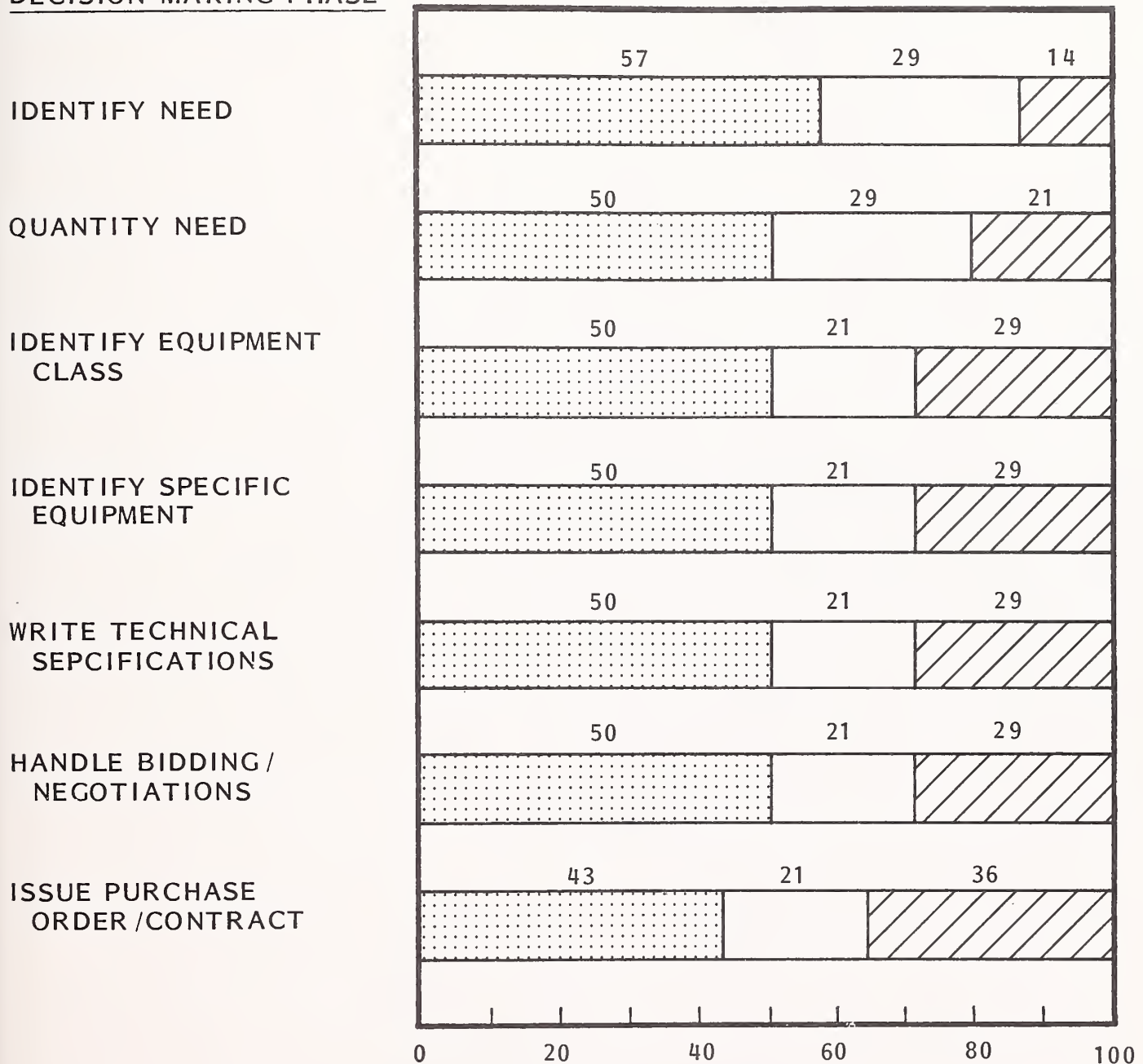
#### 4. SUPPLIES

- Surprisingly, corporate headquarters is solely involved, on the average, in 27% of the phases of the purchasing process for supplies.
  - This is only slightly less than their involvement with office equipment.
- The total purchasing pattern, (Exhibit VI-4), for supplies is very similar to office equipment purchasing.
  - Corporate keeps comparatively close tabs on supplies purchasing because it is easy to have it get out of hand.
- The typical purchase cycle for supplies is one to three months for new items. Reorders of existing approved items is much shorter.

# EXHIBIT VI-4

## WHOLESALE NON-DURABLE GOODS INDUSTRY ROLES IN PURCHASING DECISIONS - SUPPLIES PURCHASING (CORPORATE VIEWPOINT)

### DECISION-MAKING PHASE



BRANCH  
 HEADQUARTERS  
 BOTH

PERCENTAGE OF PARTICIPATION



## APPENDIX A: SOURCES USED



## APPENDIX A: SOURCES USED

1. U.S. Department of Commerce. Bureau of the Census. Statistical Abstract of the United States: 1978. (99th edition). Washington, D.C. 1978
2. U.S. Department of Commerce. Bureau of the Census. Census of Wholesale Trade - Summary and Subject Statistics - 1972. Washington, D.C.
3. U.S. Department of Commerce. Bureau of the Census. County Business Patterns - 1976. Washington, D.C. 1978
4. Federal Trade Commission. Quarterly Financial Report for Manufacturing, Mining and Trade Corporations - First Quarter 1979. Washington, D.C. 1979
5. U.S. Department of Commerce. Industry and Trade Administration. 1978 U.S. Industrial Outlook
6. U.S. Department of Commerce. Industry and Trade Administration. 1979 U.S. Industrial Outlook
7. National Association of Wholesaler Distributors. Distribution Code Numbering System For Industrial Supply Items. Philadelphia, PA 1975
8. U.S. Office of Management and Budget. Standard Industrial Classification Manual. Washington, D.C. 1972



## APPENDIX B: DEFINITIONS



## APPENDIX B: DEFINITIONS

- An enterprise is a business organization.
- An establishment is a physical location or a street address and can be:
  - An independent enterprise.
  - A branch of a major enterprise.
- An establishment can be a single-unit enterprise (SUE) or part of a multi-unit enterprise (MUE).
  - A single unit enterprise is an establishment having all operations consisting of activities not distinctly separable.
  - A multi-unit enterprise is a business organization consisting of more than one establishment or an establishment having distinctly separable activities.
- A small branch is a physical location or street address having less than 500 employees and is part of a large corporation.
- A small independent establishment is a SUE or a MUE having less than 500 employees and which is not a branch.

- Computer services are provided by vendors which perform data processing functions using vendor computers, or who assist users to perform such functions on their own computers; included are remote computing services (RCS), batch services, facilities management, professional services, and software products.
- Computer equipment includes any locally installed terminal, minicomputer, or mainframe. For the purpose of forecasting only, the term is defined as locally installed general purpose minicomputer or mainframe; i.e., local processing intelligence -- not including desk top calculators or accounting machines.
- Communications equipment includes keysets or PABXs. Interconnect equipment is the attachment and use of non-telephone company equipment together with telephone company equipment or services.
- Communications services includes direct dial long distance (DDD), WATS, leased lines, tie lines, Telex/TWX, or other regulated transmission of voice or data.
- Office equipment includes word processing, photocopiers, duplication machines, facsimile equipment, memory typewriters, and word processing/text editing equipment.
- Industry specific EDP applications are defined as EDP applications which are important automatable functions of an industry or group of industries; e.g., interline payables (transportation) and bill of materials (discrete manufacturing).
- Wholesaling includes establishments "primarily engaged in selling merchandise to retailers; to industrial, commercial, farm, or professional business users; or to other wholesalers; or acting as agents or brokers in buying merchandise for, or selling merchandise to, such persons or companies."

APPENDIX C: DISTRIBUTION CODE NUMBERING  
SYSTEM



# **NIDA/SIDA MANUFACTURER CODE DIRECTORY 1975 DISTRIBUTION CODE NUMBERING SYSTEM FOR INDUSTRIAL SUPPLY ITEMS**

A standard numbering system for the Industrial Supplies & Equipment industry has been developed by the Modern Methods Committee, operating on behalf of the National Industrial Distributors Association (NIDA) and the Southern Industrial Distributors Association (SIDA). Full information on all aspects of the plan, including its advantages to manufacturers, distributors and end-users, is available upon request to Robert G. Clifton, Secretary, Modern Methods Committee, 1900 Arch Street, Philadelphia, Pennsylvania 19103; telephone (215) 564-3484. Adoption of a standard numbering system makes it possible to separately identify every standard industrial supply and equipment item with its own individual code number. Each number consists of two parts: (1) a manufacturer identification number assigned by Distribution Codes, Inc. (DCI) and (2) an item number assigned to each individual product by each manufacturer.

## **NUMBER OF DIGITS**

The Modern Methods Committee first announced its standard numbering plan in 1967, following and copying a plan developed two years earlier by the National Association of Electrical Distributors and independently by The American Surgical Trade Association. Since that date, a number of wholesale industries have announced similar or identical plans, which have been drawn together into one product identification system known as the Distribution Code (DC). The DC is administered by Distribution Codes, Inc. Rapid expansion of its adoption is being experienced. Becoming widely known to the public is the fully compatible Universal Product Code (UPC) system for grocery, drug and mass merchandise/discount retail outlets, which is also administered by DCI.

Originally, each industrial supply manufacturer was assigned a 4-digit code number by NIDA/SIDA. When the same plan began to be adopted by a variety of additional wholesale trade groups, most of which were members of the National Association of Wholesaler-Distributors (NAW), it became evident that four digits would not provide a sufficiently large field to separately identify all such suppliers, and that problems would eventually result even though product lines involved would be marketed through radically different trade channels, such as consumer goods, magazines and food, as contrasted to industrial supplies and equipment.

Accordingly, NAW performed a study in the late 1960's to determine how many digits might be required in order to accommodate manufacturers within this country. From U.S. Treasury Department statistics it was determined that there were nearly 400,000 manufacturers at that time, indicating the need for six digits to identify the manufacturer. Six digits would accommodate up to 1,000,000 unique manufacturer identification numbers, thereby allowing room for growth beyond the 400,000 figure of the late 1960's and well into the future.

Upon completion of the study efforts of NAW, its Board of Trustees approved adoption of an all-numeric, 11-digit code system and approved a recommendation that an organization be formed to administer a standardized coding system for the distribution industry. The code developed was the Distribution Code, consisting of six digits for use in identifying manufacturers and five digits for each manufacturer to use in his product identification. Distribution Number Bank, Inc., later to be renamed Distribution Codes, Inc., was incorporated to implement and administer this system.

To make the 4-digit NIDA/SIDA manufacturer numbers compatible with the DC format, DCI added two digits (XX1234). With a few exceptions, it was possible to add the digits and still preserve the four digits which NIDA/SIDA had assigned. Nevertheless, it is the recommendation of the Modern Methods Committee that all users of this numbering plan be fully aware of the full 6-digit makeup of the manufacturer code number and make long-range plans to include these digits in their automated systems as they may be designed and ordered in the future.

## NUMBER ASSIGNMENTS

Manufacturers of industrial supplies and equipment who have not yet been numbered in accordance with this directory, may apply for such assignment by writing directly to Distribution Codes, Inc., 401 Wythe Street, Alexandria, Virginia 22314. Application forms are also available through the Modern Methods Committee office. Should a manufacturer have need for more than one DC manufacturer identification number, he must (1) be a true manufacturer, not an agent or distributor, (2) produce items normally carried by industrial distributors and (3) be a national marketer through industrial distributors.

## LOCAL SUPPLIERS

Distributors will want to have manufacturer code numbers for every supply source. We suggest individual assignment of numbers for local suppliers who do not generally market through industrial distributors. To avoid possible confusion with existing numbers that may be in current use in wholesale fields, we suggest that the prefix "99" be used with the elective remaining four digits for such local source-numbering.

## RECOMMENDATIONS TO SUPPLIERS

Full detailed recommendations on publication and use of these numbers are available in literature that will be supplied, on request, by the Modern Methods Committee. Basically, these include:

1. Publication of each supplier's own 5-digit product code numbers as the first left-hand column in catalogs, price lists and other publications. The manufacturer identification number should be reproduced at the top or bottom of each page. A paragraph at the front of the catalog should explain operation of the DC system. Many suppliers have included existing "catalog numbers" adjacent to the new DC product codes to denote a transition period.
2. Publication of the full DC on product labels or cartons of original sale. Preferably the number should appear on the upper right-hand corner of the label, separately identifying the "Mfr. number" and the "product code."
3. Publication of the manufacturer identification number on invoice forms sent to industrial distributors.
4. Establishment of order entry procedures to accept distributor orders by DC numbers.
5. Identification of product codes on acknowledgments, invoices, packing slips, etc., in conformity with the **Standardization of Forms and Information Flow** manual developed by the National Wholesale Hardware Association and endorsed by the Modern Methods Committee on behalf of NIDA and SIDA.
6. Assignment of product code numbers in logical sequence by groups of products, with gaps between classes to allow for expansion of model lines and model changes.
7. "Retirement" for an interval of several years of numbers assigned to items now obsolete.

The Modern Methods Committee recognizes that full adoption of these recommendations can be a time-consuming project. It does not urge a crash program; rather, it suggests that printed material be gradually converted when reprinted during normal schedules, thereby avoiding added direct expense for conversion.

## ASSIGNMENT TO "SPECIALS"

Assignment by each manufacturer of his own individual 5-digit product code numbers is limited to standard stock catalog items. "Specials" will always be "specials" and will continue, as previously, to require English language and dimension descriptions.

An item considered to be "special" by the manufacturer may be repetitively ordered by one distributor for a particular customer. Manufacturers who have this condition should set aside a block of product code numbers for assignment to such "specials" for the convenience of the particular distributor.

Date \_\_\_\_\_

FILL IN AND RETURN TO:

Robert G. Clifton  
Modern Methods Committee  
1900 Arch Street  
Philadelphia, Pa. 19103

MANUFACTURER CODE DIRECTORY  
ORDER FORM

Please place our order for \_\_\_\_\_(quantity)

1975 Manufacturer Code Directories applying to the Distribution  
Code Numbering System at \$10.00 per copy.

Our check payable to the "Management Methods Committee"  
is attached.

Our order number (optional) is \_\_\_\_\_

Ship to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Very truly yours,

\_\_\_\_\_(OFFIC

\_\_\_\_\_(COMPA

\_\_\_\_\_(CITY,  
STAT

GUIDELINES

For Establishing Product Identification Numbers

in the

Standardized Numbering System

developed by

Distribution Codes, Inc.

for use by

Wholesale Distributors

Prepared by

Trade Service Publications, Inc.

for the

Electrical Supplies Wholesale Distributors (NAED)

Industrial Equipment and Supply Distributors (NIDA/SIDA)

Air Conditioning, Refrigeration and Heating Distributors (ARW & NHAW)

## GUIDELINES

The Standardized Numbering System being developed by Distribution Codes, Inc., (DCI), is sponsored by NAED, NIDA, SIDA and all of the 93 Trade Associations represented by the National Association of Wholesale Distributors (NAWD).

The primary purpose is to provide a uniform system of identifying the thousands of items from hundreds of different sources that are warehoused, sold, delivered and billed by wholesale distributors.

It is frequently thought of as being applicable only to Electronic Data Processing (EDP) but that is not correct. Although some such numbering system is almost indispensable for an EDP operation, there are nevertheless many benefits available to manual or semi-automated processes.

The system being developed consists of an eleven-digit non-significant number. No alpha characters are used. The first six digits identify the manufacturer or producer and the last five digits are used to designate a specific item produced by that manufacturer.

The first six digits used to identify the manufacturer are generally referred to as a "Vendor Number". This number has been, or will be assigned, by DCI. This function was established by NAWD and its sponsoring Associations to assure compatibility in all industries and to avoid duplications or a proliferation of different numbers for a single manufacturer.

The last five digits that identify the item within the particular manufacturer's line are to be assigned by the manufacturer or, failing that, they will be assigned by Trade Service Publications, Inc. acting as the agent of DCI for the Electrical Supplies Industry, the Industrial Equipment and Supply Industry, and the Air Conditioning, Refrigeration and Heating Industry.

These guidelines have been prepared to assist manufacturers in understanding the objectives of the Standardized Numbering System and the procedure of assigning the five digit number to each item.

The numbers should not be confused with the internal production control numbers used by many manufacturers. Such numbers are usually changed whenever the manufacturing process results in even a slight modification in design or bill of materials but for purposes of sale the item remains the same and retains the same catalog number. Once a Distribution EDP number is assigned to an item, it should never change so long as the item exists. Even if the manufacturer should discontinue the item, the number must not be reassigned to another item at an early date, not even a successor to the one being discontinued as there is no way of knowing how long some Distributor may have the original item remaining in his inventory. The length of time that must be allowed to elapse before re-use of a number will vary among industries. For some, three or four years will be sufficient whereas others may require as many as twenty years.

The use of a non-significant number enables the system to cover a very large number of items and yet keeps the number of digits to a minimum. If significant numbers were to be used, it would require longer numbers. For the uninitiated, a significant number is used herein as meaning a number where the position of each digit stands for some special characteristic, such as color, size, etc.

Because the numbers are non-significant they are easy to assign but not quite so easy as to permit starting with "1" and going consecutively through the entire line. That would work insofar as identification of each item is concerned, but it would leave no room for insertion of new items that might be developed that are related to those already assigned a number. Such a new item would have to be given a number at the end of the list and then when an inventory is printed out by the computer that item would appear many pages removed from the others to which it is related. Accordingly, it is desirable to leave "gaps" between numbers being assigned.

How big a gap? That depends upon the size of the line, the type of products, the possibility of new item development, etc.

With five digits, there are 99,999 numbers available. Obviously if a line contains 95,000 items, there is little room for gaps and some lines are known to exceed 100,000 items so two or more "vendor" numbers are necessary. These are exceptional situations and must be dealt with on a case-by-case basis. However, they present no unsolvable problems. For the average manufacturer 100,000 numbers is ample.

The best approach to assignment of numbers is to reserve the first 10,000 and the last 10,000 for unforeseen future use. This means starting the numbering at 10000 and ending at 90000. Thus a block of 80,000 numbers is provided which will still take care of a very large line and provide ample gaps.

Next, it is necessary to determine the type of sequencing that is desired. There are two methods. Which one is preferable depends upon the kind of products being numbered and the type of catalog-number structure that exists. The determination should be made on the basis of the sequence desired when the items are listed on a computer printout.

One method is to divide the line into groups or families of products. The items in each family are then numbered sequentially so that the printout will show all items within that family in sequence. The other method simply puts all items in the product line in alpha/numeric or numeric/alpha sequence by catalog number and then numbers them so they will print out in that sequence.

Experience has shown that the latter method is generally preferred. In most lines the items will still print out by family groups as manufacturers' catalog numbers usually use a series of sequential numbers for each group or family. However, there are problems where a single catalog or item number is used to identify an item of many variations such as size, color, etc. It is in situations of this kind that the value of the five digit non-significant number becomes most obvious as each size, color or variation would have its own identifying number and these should be assigned so that when sorted in numerical sequence the items will appear on a print in the size or color sequence that is desired, i.e., sizes in ascending sequence, etc.

One of the objectives is to enable the computer to use the five-digit number for sorting purposes. This is much more simple than to sort a mixture of alpha/numeric characters that frequently appear in catalog numbers.

If it is decided to use the family group system, the number of such families will dictate how many groups of numbers will be needed. For instance, if there are 80 such families it would be possible to allocate 1,000 numbers to each family. This does not mean that if each family had 10 items, a gap of 100 numbers should be left between each item. It is desirable to bunch the numbers of each family with small gaps so as to leave a larger gap between each family to allow for the insertion or "slotting" of a whole new family of related items.

Each type of material will present different considerations for determination of the size of the gaps between items within a family. Sometimes none is necessary. For example, an item available in several colors could have the different numbers for each color run consecutively but then a gap should be left at the end of that item to allow for the introduction of new colors.

Likewise, an item running in machine screw sizes that are well established could use consecutive numbers or perhaps jump only one or two "just in case". However, here again, at the end of that item a gap should be made to allow for a new item with the same range of sizes, etc. And the possibility that it may be necessary to use the metric system of measurements a few years from now should not be overlooked. New numbers would be needed for that.

If the line is relatively small, all the 80,000 numbers should not be used just because they are available. The gaps should be ample but the numbers should not spread over the entire range. A big block of unused numbers being available might prove very valuable at some future time.

It should be remembered that the computer sorts numerically with the numeral zero being first. Item numbers should be assigned so that when sorted in numerical sequence the various items will be listed in the order desired. If the "family" system is used, then the sequence of the groups or families should be first decided and then the numbers of the items within each family are assigned.

If the straight catalog number sequence is desired, then special attention should be given to the variations available within the same catalog number. If these variations are indicated by Prefixes or Suffixes, particular care should be used to sort them properly. Some thought must be given to whether it is to be an Alpha/numeric or Numeric/alpha sequence. That is, which comes first? The alpha sort or the numeric?

Generally we refer to such a sort as "Alpha-numeric" but more often we mean "Numeric-alpha" because it is the number we look for first and the alpha characters define the variations. Each line deserves a little study to determine the best treatment of its peculiarities.

Reserving the first 10,000 numbers will permit insertion "at the top of the list" of some new line of products that may be developed in the future that would merit such front line prominence.

This system produces numbers as follows:

Assume 98-7654 is the vendor number assigned to represent the ABC Manufacturing Company who is a manufacturer of painted metal wastebaskets. The ABC Company then assigns numbers:

|       |    |       |      |     |       |       |              |
|-------|----|-------|------|-----|-------|-------|--------------|
| 10001 | to | their | #101 | 10" | round | Red   | Wastebasket. |
| 10002 | "  | "     | "    | "   | "     | Green | "            |
| 10003 | "  | "     | "    | "   | "     | Blue  | "            |
| 10004 | "  | "     | "    | "   | "     | Gold  | "            |
| 10005 | "  | "     | "    | "   | "     | Brown | "            |

Next they need to assign numbers to their #102 12" wastebaskets but, because they may introduce new colors in their 10" line, they should jump some numbers to allow for insertion of such new colors. How many? That will depend somewhat upon the plans of the Company; perhaps 5 would do but if they contemplated the possibility of combination colors then more could be required. Or, they might consider making a 10" oval model which they would want to insert in the list as a new "family" next to the 10" round models.

If they have a relatively short line they could jump all the way to 11101 for the 12" round model. If they have a large line they might have to limit their gap and perhaps make the next number 10020 or 10050. Some have been cut even shorter than that but it is not advisable. Experience has shown that is is "easy to run out of numbers" and have no room to slot in a new item.

It is not advisable to use consecutive numbers except in a situation such as the wastebasket example where the items are identical except for the color feature. Most manufacturers skip at least 5 or 10 between numbers of the same families to allow for new developments.

Going back to our example, the Distributor would then identify these products in his computer file as --

98765410001, which would represent the 10" Red Wastebasket. For clarity and ease of reading, this is usually shown as 98-7654-10001. The dash is not used in the computer. It is used here only for easier human reading.

The DCI system does not include a check digit.

For further information, phone or write -

Trade Service Publications, Inc.  
P. O. Box 3308, Terminal Annex  
Los Angeles, California 90051

Phone toll free (800) 421-0189 except

California, Alaska and Hawaii, call (213) 385-4211

## APPENDIX D: INTERVIEW PROGRAM



## EXHIBIT D-1

## INTERVIEW PROGRAM BY SIC CODE

| SIC | INDUSTRY                               | RESPONDENTS       |          |           |    | TOTAL |
|-----|--|-------------------|----------|-----------|----|-------|
|     |  | INDE-<br>PENDENTS | BRANCHES | CORPORATE |    |       |
| 511 | PAPER AND PAPER<br>PRODUCTS            | 1                 | 3        | 2         | 6  |       |
| 512 | DRUGS AND SUNDRIES                     | 1                 | 2        | 1         | 4  |       |
| 513 | APPAREL, PIECE GOODS,<br>AND NOTIONS   | 2                 | 2        | 1         | 5  |       |
| 514 | GROCERIES AND<br>RELATED PRODUCTS      | 8                 | 6        | 4         | 18 |       |
| 515 | FARM PRODUCT RAW<br>MATERIALS          | 6                 | 3        | 2         | 11 |       |
| 516 | CHEMICALS AND ALLIED<br>PRODUCTS       | 1                 | 2        | 1         | 4  |       |
| 517 | PETROLEUM AND PETRO-<br>LEUM PRODUCTS  | -                 | 2        | 1         | 3  |       |
| 518 | BEER, WINE, AND<br>DISTILLED BEVERAGES | 1                 | 1        | 1         | 3  |       |
| 519 | MISCELLANEOUS GOODS                    | 5                 | 4        | 2         | 11 |       |
| 51  | TOTAL                                  | 25                | 25       | 15        | 65 |       |

# EXHIBIT D-2

## INTERVIEW PROGRAM BY ESTABLISHMENT SIZE

| ESTABLISHMENT<br>SIZE | RESPONDENTS       |          | TOTAL |
|-----------------------|-------------------|----------|-------|
|                       | INDE-<br>PENDENTS | BRANCHES |       |
| 1-19 EMPLOYEES        | 7                 | 6        | 13    |
| 20-99 EMPLOYEES       | 9                 | 9        | 18    |
| 100-499 EMPLOYEES     | 9                 | 10       | 19    |
| SUBTOTAL              | 25                | 25       | 50    |
| CORPORATE             | —                 | —        | 15    |
| TOTAL                 | 50                | 50       | 65    |

## APPENDIX E: QUESTIONNAIRES



## SMALL ESTABLISHMENT PROGRAM

## CORPORATE NEED IDENTIFICATION AND DECISION PROCESS QUESTIONNAIRE

Hello, my name is \_\_\_\_\_. I am with INPUT, an international management consulting firm located in \_\_\_\_\_. Our company has been retained by a group of clients in the office products, computer, and communications industries to better determine how they can better serve the needs of small and medium sized branches of large U.S. corporations. We are especially interested in the corporate role in buying decisions for information handling equipment and services for use at the branch or subsidiary level.

1. Please describe in general how remote locations of your organization obtain computer, office, and communications equipment and services?
  
  
  
  
  
  
  
  
  
  
2. In general, how do remote locations of your organization obtain supplies necessary to operate automated equipment:
  - A. Installed at their location?
  
  
  
  
  - B. Not totally installed at their location?

3. In the computer area (which includes computer and terminals of all kinds):

Please indicate which areas of your company are involved at each stage of the purchase decision.

|    |   | Remote<br>Branch/<br>Subsidiary<br>Only | Corporate<br>Only                    | Both<br>Branch<br>&<br>Corporate |
|----|---|---|--------------------------------------|----------------------------------|
| A. | Identify Need   | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| B. | Quantify Need (Develop<br>Cost Justification)   | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| C. | Identify a Class of<br>Equipment for a<br>Solution  | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| D. | Identify Specific<br>Equipment by<br>Literature/Salesmen  | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| E. | Write Technical<br>Specifications   | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| F. | Handle Negotiations<br>or Bidding   | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| G. | Issue a Purchase<br>Order/Contract  | <input type="checkbox"/>                | <input type="checkbox"/>             | <input type="checkbox"/>         |
| H. | How long is the typical cycle from identification of a need<br>to the issuance of a purchase order or contract? |   |                                      |                                  |
|    | <input type="checkbox"/> 1-3 Months   | <input type="checkbox"/> 3-6 Months     | <input type="checkbox"/> 6-12 Months |                                  |
|    | <input type="checkbox"/> 12-24 Months   | <input type="checkbox"/> Over 24 Months |                                      |                                  |
| I. | How does the decision process vary between branches,<br>subsidiaries, and divisions?                            |   |                                      |                                  |

J. How does the decision process vary between production, sales, warehousing, and administrative locations?

K. Are there corporate standards which locations must adhere to?

☐

Yes

☐

No

L. (If Yes) What are these corporate standards?

4. In the computer services area (which includes service bureau, time sharing, and contract programming):

|   | Remote<br>Branch/<br>Subsidiary<br>Only | Corporate<br>Only        | Both<br>Branch<br>&<br>Corporate |
|---|---|--------------------------|----------------------------------|
| A. Identify Need  | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| B. Quantify Need (Develop<br>Cost Justification)            | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| C. Identify a Class of<br>Equipment for a<br>Solution       | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| D. Identify Specific<br>Equipment by<br>Literature/Salesmen | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| E. Write Technical<br>Specifications                        | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| F. Handle Negotiations or<br>Bidding                        | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| G. Issue a Purchase<br>Order Contract                       | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |

- H. How long is the typical cycle from identification of a need to the issuance of a purchase order or contract?
- ☐ 1-3 Months      ☐ 3-6 Months      ☐ 6-12 Months  
☐ 12-24 Months      ☐ Over 24 Months
- I. How does the decision process vary between branches, subsidiaries, and divisions?
- J. How does the decision process vary between production, sales, warehousing, and administrative locations?
- K. Are there corporate standards which locations must adhere to?
- ☐ Yes      ☐ No
- L. (If Yes) What are these corporate standards?
5. Where is the decision made whether to use computer equipment or services?

6. In the area of office equipment which includes text (word processing, copiers, typewriters, etc.)

Please indicate which areas of your company are involved at each stage of the purchase decision.

|   | Remote<br>Branch/<br>Subsidiary<br>Only | Corporate<br>Only        | Both<br>Branch<br>&<br>Corporate |
|---|---|--------------------------|----------------------------------|
| A. Identify Need                                      | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| B. Quantify Need (Develop Cost Justification)         | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| C. Identify a Class of Equipment for a Solution       | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| D. Identify Specific Equipment by Literature/Salesmen | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| E. Write Technical Specifications                     | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| F. Handle Negotiations or Bidding                     | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| G. Issue a Purchase Order/Contract                    | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |

- H. How long is the typical cycle from identification of a need to the issuance of a purchase order or contract?

|                                       |   |                                      |
|---------------------------------------|---|--------------------------------------|
| <input type="checkbox"/> 1-3 Months   | <input type="checkbox"/> 3-6 Months     | <input type="checkbox"/> 6-12 Months |
| <input type="checkbox"/> 12-24 Months | <input type="checkbox"/> Over 24 Months |                                      |

- I. How does the decision process vary between branches, subsidiaries, and divisions?

- J. How does the decision process vary between production sales, warehousing, and administrative locations?

K. Are there corporate standards which locations must adhere to?

☐

Yes

☐

No

L. (If Yes) What are these corporate standards?

7. In the area of communications (which includes equipment and services):

Please indicate which areas of your company are involved at each stage of the purchase decision.

|   | Remote<br>Branch/<br>Subsidiary<br>Only | Corporate<br>Only        | Both<br>Branch<br>&<br>Corporate |
|---|---|--------------------------|----------------------------------|
| A. Identify Need                                      | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| B. Quantify Need (Develop Cost Justification)         | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| C. Identify a Class of Equipment for a Solution       | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| D. Identify Specific Equipment by Literature/Salesmen | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| E. Write Technical Specifications                     | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| F. Handle Negotiations or Bidding                     | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| G. Issue a Purchase Order/Contract                    | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |

H. How long is the typical cycle from identification of a need to the issuance of a purchase order or contract?

☐

1-3 Months

☐

3-6 Months

☐

6-12 Months

☐

12-24 Months

☐

Over 24 Months

I. How does the decision process vary between branches, subsidiaries, and divisions?

- J. How does the decision process vary between production sales, warehousing, and administrative locations?
- K. Are there corporate standards which locations must adhere to?  
☐ Yes ☐ No
- L. (If Yes) What are these corporate standards?
- M. How does the decision process differ between communication services and communications equipment?

8. In the area of supplies (which includes media for people and media for machines):

Please indicate which areas of your company are involved at each stage of the purchase decision.

|  | Remote<br>Branch/<br>Subsidiary<br>Only | Corporate<br>Only        | Both<br>Branch<br>&<br>Corporate |
|--|---|--------------------------|----------------------------------|
| A. Identify Need   | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| B. Quantify Need (Develop<br>Cost Justification)         | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| C. Identify a Class of<br>Equipment for a Solution       | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| D. Identify Specific Equipment<br>by Literature/Salesmen | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| E. Write Technical Specifications                        | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| F. Handle Negotiations or Bidding                        | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |
| G. Issue a Purchase Order/<br>Contract                   | <input type="checkbox"/>                | <input type="checkbox"/> | <input type="checkbox"/>         |

- H. How long is the typical cycle from identification of a need to the issuance of a purchase order or contract?

☐ 1-3 Months      ☐ 3-6 Months      ☐ 6-12 Months  
☐ 12-24 Months      ☐ Over 24 Months

- I. How does the decision process vary between branches, subsidiaries, and divisions?

- J. How does the decision process vary between branches, subsidiaries, and divisions?

- K. Are there corporate standards which locations must adhere to?

☐ Yes      ☐ No

- L. (If Yes) What are these corporate standards?

9. Describe any differences which may apply within the general category of supplies:

10. Are there any differences between branches and subsidiary locations in how the need identification and purchase process operates?

☐

Yes

☐

No

A. (If Yes) What are these differences?

11. Are there any differences in how the need identification and purchase process operates based on the size of the branch or subsidiary location?

☐

Yes

☐

No

A. (If Yes) What are these differences:

12. What constitutes a large branch or subsidiary location?

☐

A location with a large number of employees

☐

A location responsible for a large portion of generated revenue.

☐

A location with one or more resident senior staff members.

☐

Other \_\_\_\_\_

13. Does corporate involvement in need identification or purchase process decisions increase as the dollar amount of a purchase increases?
- ☐ No, the dollar amount of a purchase has no direct bearing on corporate involvement.
- ☐ Corporate gets more involved in the need identification process as the potential dollar amount necessary to fill a need increases.
- ☐ Corporate gets more involved in the purchase decisions as the potential dollar amount necessary to fill a need increases.
- ☐ Corporate gets more involved, both in the need identification process and the purchase decisions as potential dollar amount necessary to fill a need increases.
14. Corporate involvement in purchase decisions is:
- ☐ Along functional responsibility (i.e., corporate involvement for computers is limited to the data processing department).
- ☐ Limited to financial approval at the time a need is identified or equipment selected.
- ☐ Limited to financial approval at the time a budget is submitted.
- ☐ Limited to financial approval, but both in budget approval and equipment selection.
- ☐ Required along both functional and financial responsibilities.
15. Are there differences in corporate involvement in purchase decisions predicated by terms of installation agreements (purchase, rental, or lease)?
- ☐ Yes ☐ No
- A. (If Yes) What are these differences?

16. How many branches or subsidiaries are there in your company?

17. How many employees are there in your company?

18. What percent of these employees work outside of the corporate headquarters location?

19. What percentage of your branches in the following functions use data processing equipment installed at their locations?

| <u>Function</u> | <u>% of All<br/>Branches</u> | <u>% of Branches that<br/>have computer equipment<br/>installed at their<br/>location</u> |
|-----------------|------------------------------|---|
| Sales           | <hr/>                        | <hr/>   |
| Production      | <hr/>                        | <hr/>   |
| Warehousing     | <hr/>                        | <hr/>   |
| Transportation  | <hr/>                        | <hr/>   |
| Wholesale       | <hr/>                        | <hr/>   |
| Back-Office     | <hr/>                        | <hr/>   |
| Services        | <hr/>                        | <hr/>   |

Thank you very much. To whom should we send the summary of our results:  
(Fill in the cover sheet or verify if previously completed.)

## SMALL ESTABLISHMENT SURVEY

SECTION I: General Company Information

1. What is your company's primary business?  
\_\_\_\_\_
2. Is your location the headquarters of your company?  
Yes ( ) No ( )
  - a) Is your establishment part of a larger company?  
Yes ( ) No ( )
  - b) (If Yes) What is your parent company's name and primary business?  
\_\_\_\_\_
3. How many employees are there at your location? \_\_\_\_\_
4. How many employees at your location are support staff (typists, secretaries, receptionist, keypunch operators, etc.)? \_\_\_\_\_

SECTION II: Types of Improvements Needed For Information Handling

1. In your office, what are the most significant information handling problems and how do you think they may be resolved?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
  - a) Office equipment related - (typing, copying, dictating, and filing).  
\_\_\_\_\_  
\_\_\_\_\_
  - b) Computer related: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  - c) Communications related - (the equipment you use, the services the telephone companies provide). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What improvements do you expect to make in any of these areas in the next two years?

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SECTION III: Types of Computer Equipment and Services You Use

1. Do you presently use computer equipment or services (check all that apply)?

- ( ) We use a computer installed at this location.  
(Go to Question III 4.)
- ( ) We use a computer located at another site within this company.  
(Go to Question III 13.)
- ( ) We presently use computer services from a separate vendor.  
(Go to Question III 12.)
- ( ) We do not use computers or computer services.

2. Why don't you use computers or computer services?

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3. Do you plan to use computers in the future?

Yes ( ) No ( ) (Go to Question III 19)

a) If Yes, When? \_\_\_\_\_

b) If Yes, Which one(s)? \_\_\_\_\_

\_\_\_\_\_  
(Go to Question III 19.)

4. What type of computer equipment do you have installed at your location?

| Equipment               | Make/Model | No. in Use | Approx. Cost |
|-------------------------|------------|------------|--------------|
| Small Business Computer |            |            |              |
| Terminals               |            |            |              |
| Accounting Machines     |            |            |              |
| Other                   |            |            |              |

5. Please describe the computer system(s) you use.
- a) Internal Memory Size (K):
  - b) Language used (i.e., COBOL, BASIC, FORTRAN):
  - c) Type and quantity of magnetic media (i.e., tape, disk):
  - d) Type and quantity of output printers:
  - e) Type and quantity of CRT terminals:
6. Does your computer communicate with any other computers or terminals in a location separate from yours?  
Yes ( ) No ( )
7. Why do you feel your computer should be installed at your location instead of using computer services?
8. Are you satisfied with your computer system?  
Yes ( ) No ( )
- a) Why?
  - b) What changes would you like?

9. Do you plan to buy another computer or to change your present computer system in the next 5 years?
- ( ) No Change      ( ) Add An Additional Computer      ( ) Modify Our Present Computer
- ( ) Replace Present Computer With A New One      ( ) Replace Present Computer With A Service

10. How do you prefer to acquire computer equipment?
- Rent ( )      Lease ( )      Purchase ( )

11. What advice do you have for computer manufacturers?  
(If computer services are also use, continue with Question III 14, otherwise skip to Question III 22.)

12. What computer services do you use?

| Name of Service Co. | Type of Service Used | Applications |
|---------------------|----------------------|--------------|
|                     |                      |              |

13. How do you send and receive data to and from the service?
- ( ) Interactively
- ( ) By remote batch terminals
- ( ) Mail
- ( ) Other

14. What is the best way for you to pay for computer services?
- ( ) Pay by transaction
- ( ) Pay by time
- ( ) Pay a flat monthly rate
- ( ) Other
15. How does this differ from the way you now pay for computer services?
16. Will you replace the use of computer services by a computer?
- Yes ( ) No ( )
- a) If Yes, What type of computer?
17. What advice do you have to computer service companies?
18. How do you normally obtain your computer programs?
- ( ) We use the standard programs supplied by the manufacturer, no modifications.
- ( ) Use programs supplied by manufacturers which were modified to fit our situation. Programs modified by: \_\_\_\_\_
- ( ) They were written for us by a software house.
- ( ) We prefer to write our own programs.
19. How important are the following factors in choosing computer equipment, services, or software?

| FACTORS  | Very Important | Somewhat Important | Slightly Important | Unimportant |
|--|----------------|--------------------|--------------------|-------------|
| Support in using the computer or writing the programs? |                |                    |                    |             |
| Availability of additional software                    |                |                    |                    |             |
| Delivery schedule                                      |                |                    |                    |             |
| Reputation of vendor                                   |                |                    |                    |             |
| Availability of additional equipment                   |                |                    |                    |             |
| Hardware upgradability with software compatibility     |                |                    |                    |             |
| Other _____<br>(specify)                               |                |                    |                    |             |

20. What applications do you use your computer/computer services for?

| Applications                    | Now<br>Manual | Now<br>Automated |         | Expect to Automate<br>Within<br>Five Years |
|---------------------------------|---------------|------------------|---------|--|
|                                 |               | Inhouse          | Service |  |
| <u>Marketing &amp; Sales</u>    |               |                  |         |  |
| Order Entry                     |               |                  |         |  |
| Sales Analysis                  |               |                  |         |  |
| Credit Authorization            |               |                  |         |  |
| Other _____                     |               |                  |         |  |
| <u>Finance-Accounting</u>       |               |                  |         |  |
| Payroll                         |               |                  |         |  |
| Billing                         |               |                  |         |  |
| Accts. Receivable               |               |                  |         |  |
| Accts. Payable                  |               |                  |         |  |
| General Ledger                  |               |                  |         |  |
| Other _____                     |               |                  |         |  |
| <u>Warehousing-Distribution</u> |               |                  |         |  |
| Order Allocation                |               |                  |         |  |
| Shipping                        |               |                  |         |  |
| Stock Replenishment             |               |                  |         |  |
| Other _____                     |               |                  |         |  |
| <u>Purchasing</u>               |               |                  |         |  |
| Inventory Control               |               |                  |         |  |
| Receiving                       |               |                  |         |  |
| Other _____                     |               |                  |         |  |
| <u>Manufacturing</u>            |               |                  |         |  |
| Bill of Materials               |               |                  |         |  |
| Shop Floor Control              |               |                  |         |  |
| Order Tracking                  |               |                  |         |  |
| Material Requirements/Planning  |               |                  |         |  |
| Scheduling                      |               |                  |         |  |
| Job Costing                     |               |                  |         |  |
| Estimating                      |               |                  |         |  |
| Numerical Control               |               |                  |         |  |
| Other _____                     |               |                  |         |  |
| <u>R &amp; D</u>                |               |                  |         |  |
| Analysis/Design                 |               |                  |         |  |
| Other _____                     |               |                  |         |  |

## SECTION IV: Use of Communications

1. What type of communications equipment do you have installed at your location?

| Type of Equipment                         | Make/Model | Number In Use | Number of Outside Lines |
|---|------------|---------------|-------------------------|
| Keyset (one button for each outside line) |            |               |                         |
| PABX (central telephone answering)        |            |               |                         |
| Facsimile                                 |            |               |                         |
| Other _____                               |            |               |                         |

2. What type of communications services do you use at your location?

| Type of Service                     | Supplier | Number In Use | Restrictions (Band, Hours/Mo., etc.) |
|-------------------------------------|----------|---------------|--------------------------------------|
| WATS Lines                          |          |               |                                      |
| TELEX/TWX                           |          |               |                                      |
| Leased Lines                        |          |               |                                      |
| Non-telephone Co. supplied services |          |               |                                      |
| Other _____                         |          |               |                                      |

3. Do you use communications equipment provided by:

- ( ) Bell Telephone
- ( ) Independent Telephone Companies
- ( ) Equipment suppliers who don't supply communications services.

a) Why?

4. What type of documents do you transmit via facsimile equipment?
5. Please describe any changes in your use of communications expected in the next two years.
6. What advice do you have for communications equipment and service suppliers?

SECTION V: Use of Office Equipment at Your Location.

- I. What office equipment do you have installed at your location?

| Typewriters and Word Processors | Make/Model | Number In Use | Average No. Of Pgs./Day   |
|---------------------------------|------------|---------------|---------------------------|
| Typewriters                     |            |               |                           |
| Memory Typewriters              |            |               |                           |
| Stand-Alone Word Processors     |            |               |                           |
| Shared Logic Word Processors    |            |               |                           |
| Copy and Duplication Equipment  | Make/Model | Number In Use | Average No. Of Copies/Day |
| Coated Paper Copiers            |            |               |                           |
| Plain Paper Copiers             |            |               |                           |
| Duplicators                     |            |               |                           |

- ( ) Not Sure      ( ) No

8. What advice do you have for word processor manufacturers?

9. What features do you want on a copier?

- |  |  |
|--|--|
| <input type="checkbox"/> Reduction       | <input type="checkbox"/> Quality of output     |
| <input type="checkbox"/> 2 sided copying | <input type="checkbox"/> Speed (copies/minute) |
| <input type="checkbox"/> Document Feed   | <input type="checkbox"/> Collating             |
| <input type="checkbox"/> Other _____     |  |

SECTION VI: Revenues and Expenditures at Your Location

(Please do not include any other locations of your company.)

1. Please indicate in which range your (your location) total revenue falls.

- ☐ Under \$300,000
- ☐ \$300,000 to \$1 Million
- ☐ \$1 Million to \$2.5 Million
- ☐ \$2.5 Million to \$10 Million
- ☐ \$10 Million to \$25 Million
- ☐ \$25 Million or more
- ☐ Not applicable, none

2. How do you budget your administrative expenses?

- ☐ The budget is based on a percentage of revenues.
- ☐ The budget is based on last years personnel and consumable costs plus an allowance for inflation.
- ☐ Budgets and expenditures are justified elsewhere.
- ☐ Treat new office equipment as non-budgeted capital investment and handle on an individual basis.
- ☐ Other \_\_\_\_\_

3. Please indicate which range most accurately represents annual outside expenditures for computer, office, and communications equipment and services. Please do not include salary paid to your own employees to operate the equipment.

| EQUIPMENT  | Less than<br>\$1500<br>per mo.) | \$1500-2999<br>(\$125-250<br>per mo.) | \$3000-8999<br>(\$250-750<br>per mo.) | \$9000-29,999<br>(\$750-2500<br>per mo.) | \$30,000-77,999<br>(\$2500-6500<br>per mo.) | \$78,000-179,999<br>(\$6500-15,000<br>per mo.) | \$180,000 +<br>(\$15,000 +<br>per mo.) |
|--|---------------------------------|---------------------------------------|---------------------------------------|--|---|--|--|
| Phone expenses paid to phone co. for equipment and services      |                                 |                                       |                                       |  |   |  |  |
| Other Communications equip. and services                         |                                 |                                       |                                       |  |   |  |  |
| Computer equipment (computers/terminals --exclude desk top units |                                 |                                       |                                       |  |   |  |  |
| Computer services (Time-sharing or Batch)                        |                                 |                                       |                                       |  |   |  |  |
| Computer Software (Soft. prod./services)                         |                                 |                                       |                                       |  |   |  |  |
| Office equip. (copiers, typewriters, text editors)               |                                 |                                       |                                       |  |   |  |  |



